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THE RELATIONSHIPS OF
FAMILY ENVIRONMENT AND TYPE OF SCHOOLS
TO THE PERSONALITY OF
HONG KONG JUNIOR SECONDARY SCHOOL STUDENTS

by
Ng Hung Sum

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ABSTRACT

The present study is a survey research, in which two famed instruments Junior Eysenck Personality Questionnaire (JEPQ) and Family Environment Scale (Form R) are adopted. The objectives are to examine the factorial structure of Moos' Family Environment Scale and to investigate the relationships of sex, family environment and type of schools to students' personality.

For comparing the degree of motivation of dissimulation, nearly half of the subjects were requested to sign their names on the answer sheets while the others were not. However, no significant difference was detected. The outcomes of Factor Analysis revealed that a three-factor model is more suitable than Moos' model for testing the Chinese students' perceived family environment.

Sex differences in the students' personality and perceived family environment were proved significant. Cultural impacts were also discussed. The hypothesis that no relationship between students' personality and family environments was rejected according to the results of Stepwise Multiple Regression. Although the effects on students' personality by type of schools were negligible, the interactions by type of schools and sex were partially significant. There was, however, no interaction on personality by family environment and type of schools.

CHAPTER I INTRODUCTION

Background of the Study

During the past twenty years, the main development of education in Hong Kong has been the progressive extension of universal education. In 1965 and 1974, Hong Kong Government proposed two schemes providing aided places for the vast majority of 6-15 age-groups to complete the primary and junior secondary education respectively. Seven years after the introduction of free and compulsory primary education in 1971, universal and free junior secondary education has been achieved as from September of 1978.

In fact, the Education Department and educationists in Hong Kong have made an enormous effort to enhance the services and to plan for the future qualitative and quantitative development of education. In the Education Department, the Secondary School Places Allocation System is designed to replace the competitive Secondary Schools Entrance Examination while Primary One Admission Unit is developed in order to eliminate the pressures imposed on children by the intense competition to enter popular primary schools.

The schools in Hong Kong are examination-oriented as their major concern is preparing pupils for dealing with the public examinations. A school is nevertheless a diminutive community in which members interact and influence the behaviour of one another. To (1982) emphasized that teaching is not merely to offer our students an opportunity for intellectual development, but also invest with privilege in cultural and moral services. Like parents, the teacher is under an obligation to promote a healthy personality development and a balanced mental and moral life of our younger generation.

While the generation gap in the teenagers' families appears to be wider than it really is (Yam, 1981), some teenagers of feeble emotions create problems for their parents and teachers. They are those with multiplicity of overt signs of emotional disturbance. Unfortunately, some school administrators and teachers despair of these teenagers' misconduct and persistently coerce them into obedience without providing any appropriate guidance and counselling.

To envisage these problems, it is not sufficient to advocate an innovative moral education programme. There is a pressing need for all parents and teachers to offer a wholesome environment where our children can develop a positive value system, a good interpersonal relationship, and a healthy personality. Really, we desire our students to possess a set of positive strategies for survival and to become a stable person with a minimum level of

3

disorganized emotionality. Furthermore, an individual's personality circumscribes his or her vocational choice (Chung, 1981) as well as behaviour and thought. Therefore, it is also significant to provide a favourable environment for our students to achieve a greater personal maturity and to develop a 'proper' personality so that they can function as useful citizens in a modern society.

Statement of the Problem

The Family Environment Scale, established by Moos (1976, 1981), is a notable instrument to evaluate the interpersonal atmosphere, patterns of growth, and organizational features of the family by using ten subscales. In recent articles (Fowler, 1981, 1982a, 1982b; Boake & Salmon, 1983), it was evident that these subscales can be accounted for by two orthogonal dimensions, namely, the interpersonal relationships and the activities related to organization and control. Although Cheung (1982) employed this Scale to study the relationship between family environments and self-concept of Chinese students in Hong Kong, the factor structure of these ten subscales was not investigated. It is, therefore, noteworthy for the present study to perform a maximum likelihood factor analysis to examine whether these subscales can also be described by this two-factor model for the students in Hong Kong.

The Junior Eysenck Personality Questionnaire (JEPQ), one of the latest versions of their series of inventories and questionnaires, is developed by Eysenck and Eysenck (1975) who are both famed theorists of trait approach to personality. A Chinese version of the JEPQ by Eysenck and Chan (1982) was adopted after being revised in the present study to measure students' personality in terms of Psychoticism, Extraversion, Neuroticism and Lie Score (or Social Desirability).

Among the eight interpersonal relations within a family, parents are the most significant persons who play an important role in their child's personality development (Cattell, 1950). Many researchers revealed the fact that one's personality is highly correlated with parental treatment (Chan, 1978; Douvan & Adelson, 1966; Lew, 1983b) and parental attitudes (Gassner & Murray, 1969; Owen, 1978; Philipson, 1981).

Many psychologists and sociologists (Brown, 1975; Forman & Forman, 1981; Fowler, 1980, 1982a, 1982b; King, 1982) have studied the effects of family environments on an individual's personality. However, the overall relationships for Chinese students are still not very clear.

The other important factor is the school where students interact with teachers and peers. Several studies (Erikson, 1964; Horrocks & Weinberg, 1970; Newman, 1976; Trickett & Moos, 1974) pointed out the importance of school settings. Lau (1979), for instance, found that a student's self-esteem is related to the type of schools he or she attends.

Purpose of the Study

The present study is undertaken to answer the following questions:

(1) Is the Moos' original ten-subscale model of Family Environment Scale suitable for measuring the interpersonal atmosphere, patterns of growth, and organizational features of the Chinese family?

(2) Are there any sex differences in the students' personality?

(3) Are there any relationships between the personality and the family environment of the Chinese pupils in Hong Kong?

(4) Does a relationship exist between the student's personality and the type of schools where he or she studies?

(5) Are there any interaction effects on students' personality caused by the variables of sex and type of schools?

(6) Are there any interaction effects on students' personality as regards their perceived family environment and type of schools?

CHAPTER II REVIEW OF LITERATURE

G. W. Allport (1955, p. iii) clearly stated that "personality is far too complex a thing to be trussed up in a conceptual straight jacket". Personality is so complex and subjective that no unique agreement on its definition is committed to by all theorists. However, it is a psychological field concerning a person as a whole.

'Personality' is a word used in various senses. In general, most of its popular meanings fall under one of the following two headings (Hall & Lindzey, 1978):

- (1) the term related to the social skill and adroitness, by which the individual reacts to a variety of persons under different circumstances, and
- (2) the notion concerning the salient impression that the person creates in others.

Practically, we interpret 'personality' as 'character' and 'temperament' in daily life. Character is closely related to the moral and disciplinary rules that the individual follows. In assumption, its development mainly depends upon the person's willpower and his social training. On the other hand, temperament refers to one's emotions and moods, it is assumed to be based on the physiological functioning of glands and the nervous system (Lew, 1980).

Theories and Definitions of Personality

A theory consists of a set of assumptions and concepts which are based on the empirical findings concluded from investigation and research. In order to answer the questions of WHAT, WHY and HOW, a complete theory of personality is required to have five components: structure, process, development, psychopathology and change (Pervin, 1975).

Kraepelin, Janet and Freud were the first psychiatrists to contribute their systematic work in personality using the clinical method; nevertheless, many other theorists offered their own approaches by using the scientific technique. American theoreticians emphasize the interaction between the individual and social environment. Personality is viewed in terms of behaviour, superficial traits, interhuman relations and modifiability. On the other hand, European psychologists favour the concepts of profound disposition, fixed structure and determination by constitution. They emphasize that personality is so relatively unchangeable that it is independent from society (Eysenck, Arnold & Meili, 1972). After reviewing the literature, Gordon W. Allport (1961) listed fifty definitions of 'personality'. In general, most of them are grouped into three categories:

(1) Personality is the organization of systems within the person and determines his behaviour and experience.

"Personality is the dynamic organization within the

individual of those psychophysical systems that determine his characteristic behaviour and thought (his unique adjustment to the environment) (Allport, 1961, p. 28).

(2) The scientific theories of personality, which can be traced back to B. F. Skinner's learning theory of reinforcement, focus upon the observable behaviours and the influences of the environment.

"Personality is that organization of unique behaviour equipment an individual has acquired under the special conditions of his development.Such a view of personality considers it to be a part of the general field of learning, dealing in particular with those learning processes which are involved in man's adjustment to his environment" (Lundin, 1974, pp. 7-29).

(3) The others, headed by William James and Carl Rogers, interpret personality as inner experience. They emphasize the subjective awareness and sense of personal identity.

".....a theory of personality has developed from our experience. Experiences which are in accord with our conditions of worth are perceived and symbolized accurately in awareness. Experiences which run contrary to the conditions of worth are perceived selectively and distortedly as if in accord with the conditions of worth, or are in part or worth, denied to awareness" (Rogers, 1959, p. 194; p. 226).

The Psychoanalytic Theories of Personality Development

The psychoanalytic theories are inducted by utilizing numerous investigations on individuals. Each theory illustrates the functioning of all people but, microscopically, it also deals with individual differences. Sigmund Freud (Eysenck, Arnold & Meili, 1972) is the first to define psychoanalysis as a scientific discipline which consists of

- (1) a research method which is to illustrate the unconscious meaning of words, actions and mental images;
- (2) a psychotherapeutic method that employs specific means of intervention (e.g., the interpretation of secret wishes and the resistance which seeks to prevent their free expression); and
- (3) a system of psychological and psychopathological theories which are constructed on the data supplied by the method of interpretation of emergence during the treatment of patients .

Psychoanalysis consists of three separated but mutually linked aspects, namely the personality theory, the method of therapy and the technique for research. In general, there are two major psychoanalytic theories of personality development: Sigmund Freud's psychosexual theory and Erik Erikson's psychosocial theory (Lew, 1980).

Psychosexual Theory

Freud (1856-1939), the founder of psychoanalysis (Cartwright, 1979; Lew, 1980), stated that all behaviors are goal-oriented towards pleasure, to reduce tension and to release energy. In 1900, Freud presented his personality theory which was based on psychological constructs. This theory is composed of the following three levels of consciousness which are used to account for human behavior:

- (1) conscious -- the aspect that we can be aware of phenomena at any time,
- (2) preconscious -- the aspect that we are able to become aware of phenomena if we attend to them and
- (3) unconscious -- the phenomena we are unaware of and cannot be aware of except under special circumstances.

In 1923, Freud developed a more formal structural model for psychoanalysis which is defined by the concepts of id, ego and superego. Id is the biological substratum of human which is the source of all drive energy. The energy for a person's functioning originally resides in the life and death, or sexual and aggressive instincts which are part of the id. Ego has a function to express and fulfill the desires of the id in accordance with reality and the demands of the superego. Superego contains the ideals which we strive for and the punishments which we expect when we have gone against our ethical code. In a word, the id seeks pleasure, the ego seeks reality while the superego seeks perfection (Freud,

1962).

Freud's final view of personality is complex with the above two theories superimposed. The major component in his overall theory is the psychosexual theory of personality development pattern. There are two major aspects to this theory of development:

- (1) the majority of the human personality is formed in the service of libidinal satisfactions and
- (2) the genetic approach emphasizes the importance of early events for all later behavior (most significant aspects of later personality have been formed by the end of the first five years of life).

In analysing the historical background of cases, Freud stated that five discrete stages (as shown in Table 1) exist in pregenital organization of sexual instincts. In each stage, one of the partial instincts is dominant in the sense that its pleasure aims are those through which libido (general sexual energy) will chiefly be expressed.

Psychosocial Theory

Psychosocial theory, firstly articulated by Erikson, is a theory based on four organizing concepts: stages of development, psychosocial crisis, developmental task and the process of coping. Erikson added the sociocultural facts to Freud's psychosexual development and stressed the importance of the society in which a person's personality would eventually participate.

Table 1
 Psychoanalytic Theories of Developmental Pattern in Personality^a

AGE	EDUCATION LEVEL	FREUD'S THEORY	ERIKSON'S THEORY	NEWMAN'S & NEWMAN'S THEORY	
0	Kinder- graten	Oral	Trust vs. mistrust		
1		Anal	Autonomy vs. Doubt, Shame		
2			Initiative vs. Guilt		
3		Phallic			
4					
5	Primary School	Latency			
6			Industry vs. Inferioritiy		
7					
8					
9					
10	Secondary School	Genital		Group Identity vs. Alienation	
11			Identity		
12					
13			vs.		
14					
15	Post- secondary and University				Individual Identity vs. Role Diffusion
16				Identity (Role) Confusion	
17					
18					
19					
20	22-40		Intimacy vs. Isolation		
21			Generativity vs. Stagnation		
			Integrity vs. Despair		
	40-60				
	60-				

Note. --- ^a summarized from Cartwright, 1979; Lee, 1982; Lew, 1980;
 Newman & Newman, 1976

Erikson (1950) proposed eight sequential stages, whereas, the first five stages temporally aligned with the oral, anal, phallic, latency, and genital development stages initiated by Freud. At each stage, the person is confronted with a unique problem which requires him to integrate his own needs and skills with the social demands of his culture. Each of these eight stages of developmental patterns (see Appendix 1) are assumed to have a significant impact upon subsequent stages.

For each stage, there is a psychosocial crisis referring to the individual's psychological efforts to adjust to the demands of his social environment. The crisis forces the person to utilize developmental skills which have only recently been mastered. Each psychosocial crisis is expressed in polarities -- trust vs. mistrust in oral stage for instance -- suggesting the nature of a successful or unsuccessful resolution of the crisis at this stage.

Havighurst (1953) stressed that the developmental tasks are composed of skills and competences which are acquired by the individual as he gains increased mastery over his environments. The tasks may select gains in motor skills, intellectual skills, social skills, and emotional skills. The way how a person masters the tasks depends upon the successful acquisition of earlier and simpler skills.

The process of coping is referred to as active mastery on the person's part to resolve stress and to create new solutions to the problem that he faces at each stage. White (1974) pointed out that there are three components or abilities in the coping process:

- (1) to gain and process new information,
- (2) to maintain control over one's emotional state and
- (3) to move freely within one's environments.

Adolescence is traditionally considered as a single stage concerning young people in the age between eleven and twenty-one (Erikson, 1950; Coleman, 1961; Piaget, 1970). In recent research, Newman and Newman (1976) suggested this single stage can be split into two distinct periods of psychosocial development: Early adolescence and later adolescence.

During one's early adolescence stage, one experiences considerable pressure which is emanated from three sources described as follows:

- (1) Parents -- The child's increased mobility and involvement away from the family make it obvious to parents that they have less opportunity to directly guide or influence their child. If this adolescent experiences conflict with his parents, his friendship choices does not reflect his parents' values.
- (2) Age-mates -- As child is unlikely to be able to withstand all the demands from his age-mates, his circle of friends, his interests and his style of dress quickly link him to a subgroup. In fact, the individual who becomes a member of any group is more acceptable to the social system than others who try to remain unaffiliated and aloof.
- (3) School -- School adults accept and encourage the

organization of students into peer groupings. In the passive mode, they allow students to establish the boundaries, the rivalries and the cooperation in their relationships. On the other hand, they actively reinforce some characteristics of the peer group by selecting certain students for certain kinds of task, e.g. class monitors, school prefects and team captains.

The psychosocial crisis for early adolescence is called group identity vs. alienation. The resolution of this crisis depends heavily upon the interaction with his peers but is independent of the relationship with adult.

The later stage of adolescence starts approximately from age of eighteen and continues for about three or four years. This stage is closely parallel to Erikson's conceptualization of the entire period of adolescence.

Eysenck's Theory -- a Trait Approach to Personality

"A trait may be defined as a covariant set of behavioral acts; it appears thus as an organizing principle which is deduced from the observed generality of human behavior."
(Eysenck, 1970, pp. 9-10)

Trait approach to personality is based on one assumption that people possess broad traits -- predispositions -- to respond in a particular way. Among the notable trait theorists, such as

Allport, Eysenck and Cattell, the last two utilized factor analysis, a statistical procedure, to determine the basic traits which make up the human personality (Previn, 1980). Eysenck highlighted three factors representing the dimensions of neurotic tendency of neuroticism, extraversion - introversion and psychoticism. Meanwhile, besides other analyses of Life Record Data (L-data) and Objective Test Data (OT-data), Cattell (1972) emphasized that sixteen factors (16 PF) are used to find the source traits from Questionnaire Data (Q-data).

Eysenck's Theory

Eysenck suggested that human behavior and personality can be organized into a hierarchy. At the lowest level, the specific responses are the acts, such responses to an experimental test or experiences of daily life, which are observed once and may or may not be an individual's characteristic. At the second level, the habitual responses are the specific responses which tend to recur under similar circumstances. At the third level, the traits are theoretical constructs which are based on observed inter-correlations of a number of different habitual responses. At the top level, the traits, such as persistence, rigidity, subjectivity, shyness and irritability are organized into a general type called introversion.

In a systematic research concerning the thirty-nine traits, rated by psychiatrists during interviews of 700 patients, Eysenck investigated the inter-correlations among the traits and

classified them into two bipolar factors. The first factor is interpreted as neuroticism (N) which measures the severity of neurotic disorder regardless of the kind of disorder. The hysterical pole of the second factor was initially named by Eysenck as hysteria and the opposite end as dysthymia. Since dysthymia is found corresponded with Jung's introversion, this second factor represents the dimension of extraversion (E). The relationship of these two dimensions to the ancient Galen-Kant-Wundt scheme of the four temperaments is shown in Figure 1.

In 1952, Eysenck postulated that a new personality factor, labelled as psychoticism (P), is postulated to be independent of N and E.

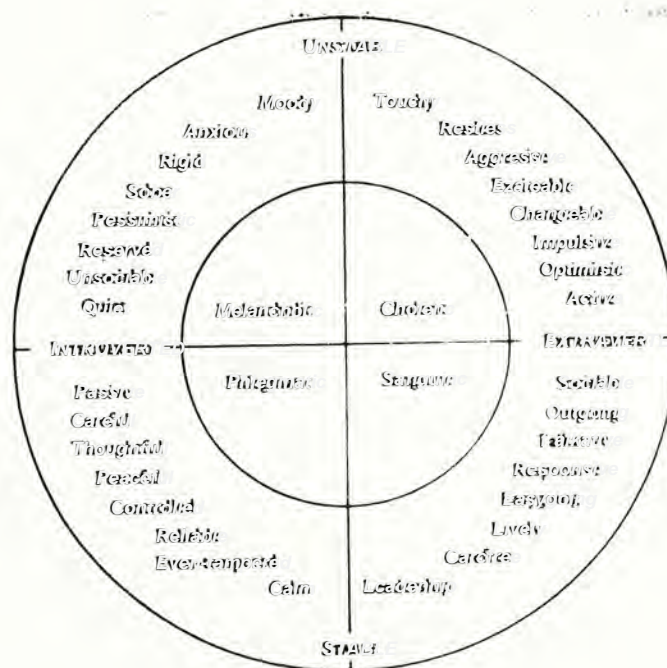


Figure 1 Relationship of Extraversion-Introversion Neuroticism-Stability to Early Scheme of Temperament (from Eysenck, 1964)

Eysenck's Factors of Personality

Psychoticism or Toughmindedness. A man who gets high score in this dimension is solitary. He is troublesome and does not fit in anywhere. He does not care for others, but likes to make fools of and upset them. He may be cruel, inhumane, insensitive, and lacking in feeling and empathy. He is hostile and aggressive to other people, even to his kith and kin and his loved ones. He prefers unusual things and disregards for danger. A child with high scores may be described as being odd, isolated, glacial and lacking in human feelings for his fellows. Empathy, feelings of guilt, sensitivity to other people are strange and unfamiliar to him. Although 'psychoticism' overlaps with three diagnostic terms, 'schizoid', 'psychopathic' and 'behavior disorders', the scale used is only to deal with normal behaviors, but not with symptoms. It is a personality variable underlying behaviors which become pathological only in extreme cases. (Eysenck & Eysenck, 1975; 1976)

For the adolescent's value orientations, Brown (1975) emphasized that psychoticism is

- (1) positively related to passivity -- being fatalistic, rationalizing failure as preordained;
- (2) positively related to cynicism -- the level of mistrust of others;
- (3) positively related to educational primacy -- viewing that education is vital as a means of realizing potential; and, however,

- (4) negatively related to family loyalty -- the extent to which subjects will subordinate the demands of career and marriage to loyalty to his family.

Extraversion. High scores in this factor are indicative of extraversion. The typical extravert is likely to be outgoing, having many social contacts, frequently taking part in group activities and to be impulsive and uninhibited. He is sociable, has many friends, needs to have people to talk to, but does not like reading or studying by himself. He asks earnestly for excitement, takes chances, always sticks his neck out and acts on a sudden impulse. He is carefree, easygoing, optimistic. He is fond of practical jokes and likes to 'laugh and be merry'. In a word, an extravert is aggressive and easy to lose his temper as his feelings are not kept under tight control.

On the other end, the typical introvert is quiet, introspective and fond of books rather than people. He is a retiring sort of person, who is reserved and distant except to intimate friends. He usually plans ahead, looks before he leaps and does not trust the impulse of the moment. He does not crave excitement, but takes any matter with proper seriousness and likes a well-order mode of life. He seldom behaves in an aggressive manner or loses his temper easily since his feelings are kept under close control. As a whole, he is pessimistic, and places emphasis upon ethical standards (Eysenck & Eysenck, 1964; 1975).

In Hansford & Neidhart's study (1977), it was supported that extraversion has dual nature, namely 'impulsivity' and

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'sociability'. Extraverts are hungry for stimulus while introverts are shy for stimulus.

Extraversion is found correlated to study habits. Introvert has a lower threshold of arousal of the reticular activating system and he will choose to study where the number of people and amount of external stimulation are minimized (Eysenck, 1967). Campbell and Hawley (1982) reported that introvert tends to study on individual desk while extravert prefers studying on large reference table, on sofa and easy chair. Moreover, extravert will take more frequent study breaks and likes high in levels of noise, crowdedness and socializing opportunities.

Extravert is considered more susceptible to inhibition so that he will experience more involuntary rest pauses and consequently exhibit poorer vigilance performance (Eysenck, 1964). In the studies by Claridge (1967) and Brody (1972), it was found that introvert is superior to extrovert on laboratory task which entails noticing an atypical occurrence in a long and repetitive stimulus array. However, at a learning task in the presence of distraction, introvert functions less efficiently while extrovert improve their performance (Morgenstern, Hodgson & Law, 1974).

Neuroticism or Emotionality. High scores in this scale are indicative of emotional lability and overreactivity. The typical high scorer tends to be anxious, worrying, moody and frequently depressed. He is always emotionally overresponsive and has difficulties in returning to a normal state after an emotional

experience. Moreover, he often complains of having vague somatic upsets, such as headaches, backaches, digestive troubles, insomnia ... etc, and also reports many anxieties and disagreeable emotional feelings. He is predisposed to develop neurotic disorders under stress; nevertheless, such predispositions should not be confused with actual neurotic breakdown. In general, a high N scores individual is a worrier who makes too much fuss of the preoccupation of things that might go wrong and he processes a strong emotional reaction of anxiety to these thoughts (Eysenck & Eysenck, 1964). When combined with extraversion, such person is touchy, restless, and becomes excitable and aggressive.

On the other hand, a stable person, the low scorer, is calm, even-tempered, controlled and unworried. He seldom responds emotionally and returns to baseline quickly after any emotional arousal (Eysenck & Eysenck, 1975, pp. 9-10).

Brown's analysis (1975) pointed out that neuroticism is related to intolerance, the extent of one's ability to tolerate imperfections in others. He suggested that a person of extreme irritability is unwilling to compromise with the deficiencies of others.

Lie Score. The lie score has been introduced in Eysenck Personality Inventory of this series of questionnaires to measure the tendency of the subjects to 'fake good'. High score in this factor indicates that the subject is dissimulating as this scale is originally regarded to detect faking. A series of studies

(Eysenck & Eysenck, 1970; Michaelis & Eysenck, 1971; Eysenck, Mias & Eysenck, 1971) were carried out to investigate this factor structure and concluded that this scale is based on a considerable degree of factorial unity. Recently, it has been suggested that the social desirability aspect of this scale is valuable in cross-cultural projects as the norm will be likely to reflect the degree of social permissiveness of culture and the extent of subjects' conformity (Eysenck & Chan, 1982).

Social Environments

Similar to personality, there are also numerous interpretations of social environment. Usually, social environment is considered to consist of two kinds: material and psychological environments (Chan, 1977). The wealth of the home living conditions, the parents' socioeconomic status and the school campus are those related to material environment. On the other hand, the interpersonal relationship, social values, norms and moral training are classified as psychological environment.

Marjoribanks (1977) indicated that the common factors of social environment include socioeconomic status, parents' aspirations for children, parental interest and support for schooling, initiative and responsibility taken by parents toward literacy of the home, parents' interest in helping with school

work, and parents' knowledge of the social environment.

Every student grows up in his unique environment: democratic or autocratic; affectionate or enmity; supportive or destructive. In order to measure the tendency and describe the various differences in social environment, Moos (1976) summarized that there exists four types of environment: community settings, educational environments, treatment settings and total institutions. Each type can be described by three common sets of dimensions, such as relationships, personal growth (development), and system maintenance and system change dimensions (see Appendix 2). It is obvious that the family, one type of community settings, and the classroom environments both play an important role in the development of our children's personalities and exert a profound influence in their moral judgement and behavior.

Family Settings and Family Environment Scale

The majority of theorists (Glueck & Glueck, 1950; Kagan & Moss, 1962; Brown, 1975; Fowler, 1982a, 1982b) intuitively believed that family environments have a most significant impact on the people functioning and foster both positive and negative behavior. Family environments are usually measured by two major parental attitudes: acceptance versus rejection (a Relationship Dimension) and high versus low control (a System Maintenance Dimension). Although there are some notable exceptions, acceptance and permissiveness (low control) seem to bring about the best results.

The Family Environment Scale (Moos, 1976, 1981) is developed to evaluate the interpersonal atmosphere of the family with respect to its relationships, patterns of growth, and its organizational features. The relationship dimensions concern the nature and intensity of personal relationship within the family. These dimensions are measured by the Cohasion, Expressiveness, and Conflict subscales. Cohasion assesses the degree of commitment, help, and support family members provide for one another. Expressiveness indicates the extent to which family members are encouraged to act openly and to express their feelings directly. Conflict reflects the amount of openly expressed anger, aggression, and conflict among family members.

The personal growth dimensions identify the basic directions along which personal growth and self-enhancement tend to occur in the particular environment. These dimensions are measured by the Independence, Achievement Orientation, Intellectual Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis subscales. Independence shows the extent to which family members are assertive, self-sufficient, and make their own decisions. Achievement Orientation assesses the extent to which activities (such as school and work) are cast into an achievement-oriented or competitive framework. Intellectual-Cultural Orientation reflects the degrees of interest in political, social, intellectual, and cultural activities. Active-Recreational Orientation concerns the extent of participation in social and recreational activities.

Moral-Religious Emphasis indicates the degree of emphasis on ethical and religious issues and values.

The System Maintenance and System Change dimensions assess orderliness, the clarity of expectations, the degree of control, and the responsiveness to change. These dimensions are measured by the Organization and Control subscales. Organization reflects the degree of importance of clear organization and structure in planning family activities and responsibilities. Control indicates the extent to which set rules and procedures are used to run family life.

After a series of maximum likelihood factor analyses were conducted on the ten subscales of the Family Environment Scales. Fowler (1981, 1982a, 1982b) reported that these subscales can be accounted for by two bipolar dimensions. The first dimension, "cohesion vs. conflict", measures relationship-centered concerns, while the second dimension, "organization and control", reflects basic system-maintenance properties of family activity (see Table 2). Furthermore, these two dimensions are moderately related to certain family demographic characteristics (Boake & Salmon, 1983).

Social Settings at School

In general, school serves as an agent of socialization, in which student can gain the opportunity in communication with school adults (teachers and staff) and peer groups (classmates, club and athletic members).

Table 2
Factor Analyses of Family Environment Scale quoted from recent researches

Subscale	Fowler (1981)			Fowler (1982a)			Fowler (1982b)			Boake & Salmon (1983)		
	F1 ^a	F2 ^b	h_j^2 ^c	F1	F2	h_j^2	F1	F2	h_j^2	F1	F2	h_j^2
Cohesion	.87	.20	.80	.91	.14	.85	.96	.27	.99	.72	.34	.64
Expressiveness	.46	-.13	.23	.57	-.34	.44	.52	-.26	.34	.46	-.15	.24
Conflict	-.48	-.08	.24	-.43	-.04	.19	-.49	-.05	.24	-.42	-.19	.21
Independence	.44	-.12	.21	.18	-.04	.04	.06	-.32	.10	.36	-.03	.13
Achievement Orientation	-.02	.48	.23	-.26	.38	.21	-.18	.21	.07	.08	.37	.14
Intellectual-Cultural Orientation	.50	.14	.27	.56	.17	.34	.24	.02	.06	.28	.02	.08
Active-Recreational Orientation	.33	.10	.12	.23	.42	.23	.32	-.08	.11	.45	-.09	.21
Moral-Religious Emphasis	.17	.47	.25	.21	.07	.05	.23	.51	.31	-.16	.57	.35
Organization	.24	.51	.32	.24	.62	.44	.22	.46	.27	.28	.69	.55
Control	-.37	.79	.76	-.19	.78	.64	-.33	.85	.83	-.34	.48	.34
Eigenvalue	1.97	1.44	3.41	1.94	1.49	3.44	1.83	1.49	3.32	1.54	1.36	2.89
Cumulative Variance Explained in %	34.1			34.4			33.2			28.9		

Note. ^a Factor 1 --- Cohesion vs. Conflict
^b Factor 2 --- Organization and Control
^c Communality

A school is not only a place from where the student can learn knowledge and skill, but also a miniature society in which the student's behavior can be influenced through the interaction with teachers (Shoben, 1962). School adults exert an impact on student's socialization: the more interaction with student, the larger this impact (Newman, 1976).

On the other hand, Brim (1965) commented that peers are important prescribers for values which are shared by parents and teachers. In Goodman's study (1969, quoted by Newman, 1976), it was suggested that peer group serves as a transitional world between dependency and autonomy. Peers give one support for conformity to and deviation from social norms. According to several researches (Bowerman & Kinch, 1959; Floyd & South, 1972; Thomas, Gecas, Welgert & Rooney, 1974), it was verified that peer influence increases from childhood to adolescence.

Moreover, in comparing the patterns of peers and parents influence upon the gender expectations of adolescents, Loy & Norland (1981) showed that peer group holds more sway during adolescence in comparison to what research showed about parental influence during the childhood stage. It is simplistic to conceptualize adolescence as a stage of peer dominance.

The socioeconomic status of school child was found to be related to class attendance (Boyle, 1966). In general, the school with students from high socioeconomic status will offer a better quality of education (Herriott & John, 1966). Besides the socioeconomic background of family, Gorden (1957) and Coleman

(1961) revealed some other determinants of social status for school child, such as physical appearance, participation, and leadership in extra-curricular activities, academic performance, school size and school architecture.

For school size, Barker and Gump (1964) reported that students in small schools have various opportunities for participation and responsibility in many activities than those in large schools. Small school child adopts the generalist style of competence while large school child obtains the specialized style.

Personality and Social Environments

The social world is assumed to be a mirror of our socially projected images and is a subsequent source of self-information (Cooley, 1964). Man's self-behavior is associated with other people's responses, his perception of these responses and they are linked to form a circular model (Kinch, 1963). It is clear that the expectations of others will play an incorporated role in self-identity through the negotiation with others in this social world (Blumer, 1969).

King (1982) examined students' personalities according to the level of social participation, their family factors, sex and type of schools. He concluded that a person not only shares the experiences from his sociocultural environment, but also shares the personality characteristics. These shared characteristics

reflect the features which define the structure, content and dynamics of shared sociocultural processes.

Personality and Family Environment

"The family is of such paramount importance because it operates upon personality in the earliest years of its formation, because its control is wellnigh complete, and because, to a greater extent than any other institution, it is a model of the whole culture pattern, reflecting with great fidelity the mental furniture, emotional values, and moral laws of the larger society." (Cattell, 1950, pp. 330-331).

In recent years, many psychologists and sociologists have focused their interests on the family situation as a major determinant of a wide variety of neurotic, delinquent and psychotic patterns of pathological behavior (Gassner & Murray, 1969). Parsons (1956) described the functions of family in terms of personality and stated that the human personality is created by the socialization process and that in the first instance families are necessary.

Glueck and Glueck (1950) investigated 500 delinquent boys and 500 non-delinquent boys. They concluded that rejecting, hostile, and indifferent parental attitudes are more common in delinquent families. Moreover, overly lax, erratic, and strict forms of discipline are more habitual in the families with delinquent children. The delinquent boys, being more likely to feel rejected

at home, usually complain that they are not sufficiently recognized or appreciated. Kagan and Moss (1962) remarked that children, who grow up under restrictive control, are submissive and timid, especially in their early years.

Family loyalty, the extent to which subjects will subordinate the demands of career and marriage to loyalty to the family, is one of the six factors expressing aspects of achievement orientation (Brown, 1973). There exists a relationship between low family loyalty and high psychoticism so that Brown (1975) suggested that the 'isolated' psychotic without human feeling is manifested as a rejection of family ties.

Under the investigation on the relation of the family environment to personality, Forman and Forman (1981) revealed a fact that the family emphasizing the inter-personal relationship will foster a child who is more free of anxiety. Meanwhile, Fowler (1982a) found that social desirability is positively related to cohesion, intellectual-cultural orientation, active recreational orientation, organization and control, but negatively correlated with conflict.

Personality and Parents

In the analysis of the effects upon personality of the intrafamilial attitudes, Cattell (1960) pointed out there are eight interpersonal 'relations' and fourteen interpersonal situations, each of which can be estimated, for several dynamic qualities (see Appendix 3). According to Freud's psychoanalytic

theory (Freud, 1962), parents exert a most significant influence on child personality development. In this identification process, parents will be their model.

In agreement with many studies, Becker (1964) concluded that children reared by dominating parents are better socialized and more courteous, obedient, neat, generously polite, sensitive, self-conscious, and shy.

Ginsburg, McGinn and Harburg (1970) developed a Parent Image Differential (PID) to measure the twelve dimensions of parent-child interaction observed by the child. Investigating a sample of Hong Kong students by using the PID, Chan (1978) concluded that psychoticism is negatively correlated with father democratic, father concerned, mother concerned and father rational while neuroticism is negatively correlated with father concerned, mother concerned, mother democratic and father democratic. However, parental treatment does not affect children's deceitful conduct and the degree in extraversion.

Moreover, Douvan and Adelson (1966) indicated that a democratic style family fosters a more effective, expressively independent child than an authoritarian style family.

For the educated Chinese subjects in Hong Kong, Lew (1983b) also reported that child's personality development is associated with parental behaviour. In most cases, the children are found to have a healthy personality if they are reared in a family which consists of

- (1) a lenient father (who is overprotective, permissive,

pleasant to approach, and loves, talks to the children, discusses with them more than moralizes to them and allows them full independence) and

- (2) a strict mother (who is restrictive, awesome, and moralizes more often than discusses with the children).

The family's affective structure is a sociogrammatic concept referring to the pattern of positive and negative feelings about one another. In the study to compare the pathological children from some families and the normal children from control families, Lowman (1980) found families with a pathological member to have less positively affective structure. Furthermore, these identified patients and their parents will show a lower response and reception toward each other than the control families.

Parental attitudes and characteristics are reported to have an influence on child development (Owen, 1978). After investigating 44 families, in which 27 contained disturbed (schizophrenia, anorexia nervosa & neurotic) adolescents and 17 were normal families, Owen concluded that the disturbed adolescents are devalued by their parents. There is a relationship between the disturbed adolescent's poor self-evaluation and at least one of his parents' own poor self evaluation.

The problem behavior of the child is determined by the nature of the conflict between the parents. It was reported that neurotic behavior is related to the sex of the dominant parent and the sex of the disturbed child (Gassner & Murray, 1969). The neurotic boys tend to be raised in maternally dominated homes while neurotic girls in paternally dominated families.

Kawash (1982) pointed out that children reared in a warm and accepting environment will become children of lower levels of anxiety and higher levels of extraversion. On the other hand, Philipson (1981) utilized psychoanalytic theory and case material along with historical research of a non-clinical population. He pointed out that the children with narcissism (egocentrism) personality are ultimately rooted in a family situation in which

- (1) the mother is isolated from adult companionship,
- (2) her needs for meaningful work are even forbidden, and
- (3) the mother is only enforced to be exclusively responsible for child rearing. Under such circumstances, she will overinvest in their children, deny their autonomy and exhibit family empathy in her child rearing.

Sex Differences in Personality

It was obvious that parents always described boys to be tougher and more resilient and girls to be physically sturdier (Stoll, 1974). Male adolescents are reported more likely to express desires for independence from home and self-determination (Douven & Adelson, 1966). It seems the characteristics of the family are critical in fostering independence.

Boys spend nearly all their time in peer-oriented activities while girls displayed more imitation and role playing in interaction with adults (Gunnarsson, 1978; quoted by Hansell, 1981). On their friendship network structure, Lever (1975) pointed

out that girls tend to interact in dyadic play groups while boys interact in large play groups. In comparing the peer influence, Loy & Norland (1981) stated that a girl is more easily affected by her peers than a boy.

Among the Ojibwa Indian youth, it was found that female shows less variability in their personality structures and is less affected by changes in culture (Latus & Bauman, 1980). After examining their standardization sample of British male and female, Eysenck & Eysenck (1975) stated that male subjects usually have high mean scores on extraversion and psychoticism but low mean scores on neuroticism and lie scores.

For the Chinese sample in Hong Kong, children as a whole score lower on extraversion and neuroticism but higher on lie (social desirability) than their British counterparts (Eysenck & Chan, 1982). When compared with Chinese boys, Chinese girls considerably score lower in psychoticism and extraversion but higher in neuroticism and lie (social desirability) responses. In agreement with the traditional sex roles and values in Chinese society, Lew (1983a) concluded that men in Hong Kong are found to be more extraverted, more dominant but less tenderminded. On the other hand, women are expected to be more submissive but less toughminded.

Personality and School Settings

Horrocks and Weinberg (1970) studied 654 subjects and identified the following three types of psychological needs which endure from seventh through twelfth grade.

- (1) Adolescents express a need to be the recipients of unqualified expressions of affection.
- (2) They express a desire to conform to approved behavior standards or values designated by their reference group.
- (3) They express a need to work hard and to attain worthy goal.

School environments are linked to student's satisfaction and mood. School settings may be bounded by the physical environments, e.g. a classroom, a school campus or a playground. They may be bounded by interpersonal bonds, e.g. peer groups or teachers. Or they may be bounded by common beliefs, values, norms, philosophies or principles offered by teachers or shared with classmates. Finally, they may be bounded by activities which individuals engage in collectively, e.g. work and extra-curriculum activities (Newman, 1976). Trickett and Moos (1974) pointed out that school environments are correlated to student's satisfaction and mood.

In Cheung's (1982) recent research, there existed the evidence that one's self-esteem is significantly related to

- (1) the amount of help, concern and friendship that the teacher directs to him,

- (2) the order and organization which put emphasis on his behavior in the overall organization of assignments and classroom activities,
- (3) the level of friendship he feels for others, and
- (4) the clarity of the rules established in school.

In a series of investigations, Erikson (1964) revealed that teachers, as well as parents, are the significant people from whom their child can imitate and incorporate personality, attitudes, insight and responsibility. As perceived by the students of Hong Kong secondary schools, an ideal teacher must possess the following seven traits: friendly, responsible, rational, planful, unaffected, warm, and good-tempered (Lew, 1977).

To deal with the aspect concerning other school settings, Lau (1980) studied 434 Form IV students in Hong Kong and indicated that their self-esteem depend upon the types of schools (Boys', Girls' or co-educational schools), the subject group (science or arts), and the historical backgrounds of their schools.

CHAPTER III METHOD

In this study, the method adopted was that of a survey research. The revised Chinese version of two instruments for measuring the Personality Characteristics and the perceived Family Environment were combined to form a questionnaire which was administered to all the subjects selected.

Definitions

Personality

An individual's personality is developed from his or her experience and determines his or her behaviour and thought. In the present study, the students' personality is assessed by the four orthogonal factors, P, E, N and L (Eysenck & Eysenck, 1976), as briefly described below.

Psychoticism (P) A person who scores high in this dimension is troublesome, cruel, inhumane, insensitive, and lacking in feeling and empathy.

Extraversion (E) High score in this factor indicates that the subject is extraverted, sociable, outgoing, carefree, optimistic and impulsive.

Neuroticism (N) Usually, the high scorer is anxious, worrying, moody, frequently depressed and emotionally overresponsive.

Lie Score (L) This scale is originally designed to determine

the tendency of the subjects to 'fake good'. It has recently been suggested to reflect the degree of social desirability or social permissiveness of the culture.

Family Environment

The nuclear family environments are evaluated in three underlying domains: the Relationship dimensions, the Personal Growth dimensions and the System Maintenance dimensions (Moos & Moos, 1981, p. 2).

Relationship dimensions These dimensions assess the nature and intensity of personal relationship within the family which are measured by the subscales of cohesion, expressiveness and conflict.

Personal Growth Dimensions These dimensions concern the basic directions along which personal growth and self-enhancement tend to occur in the particular environment. They are determined by the following five subscales: independence, achievement orientation, intellectual-cultural orientation, active-recreational orientation and moral-religious emphasis.

System Maintenance Dimensions These dimensions indicate the orderliness, the clarity of expectations, the degree of control, and the responsiveness to change. They are accounted for by the subscales of organization and control.

Type of Schools

The Type of Schools is divided into two Categories : the Co-educational Schools and the Single-Sex Schools, which included Boys' Schools and Girls' Schools.

Hypotheses

The hypotheses of this study are as follows:

- (1) There is no sex difference in the students' Personality Characteristics as measured by the dimensions of Psychoticism (P), Extraversion (E), Neuroticism (N), and Lie Score (L) (or Social Desirability).
- (2) There is no relationship between the students' Personality Dimensions or Characteristics and the relevant subscales of their perceived Family Environments.
- (3) There is no difference in their Personality Dimensions or Characteristics between the students in different Type of Schools (Coreducational and Single-Sex Schools).
- (4) There is no interaction effect on students' Personality Dimensions or Characteristics as regards the Sex and Type of Schools.
- (5) There is no interaction effect on students' Personality Dimensions or Characteristics as regards each factor of their perceived Family Environment and Type of Schools.

Instrumentation

Two standard instruments were used in this study to measure students' tendencies along the different Personality Dimensions, their perceived Family Environment, and the relationship between these two aspects. The two instruments are briefly noted as follows:

The Chinese version of the Junior Eysenck Personality Questionnaire for Chinese children (Eysenck & Chan, 1982)

The Junior Eysenck Personality Questionnaire (JEPQ) (see Appendix 4) and the Adult Eysenck Personality Questionnaire (AEPQ) (Eysenck & Eysenck, 1975) have been developed and modified from various previous personality questionnaires and inventories during the past 31 years.

The Maudsley Medical Questionnaire (Eysenck, 1952) was the first in this series with 40 items for measuring the neuroticism (N). It was then followed by the Maudsley Personality Inventory, a second instrument which was designed with two scales measuring Neuroticism and Extraversion-Introversion (E) respectively (Eysenck, 1959). The Eysenck Personality Inventory (EPI), a simplified version with two alternative forms (Form A & B) for repeated testing, was a further development. Three improvements were made in EPI : (a) N and E were completely independent, (b) a new scale, Lie (L), was added to measure dissimulation and (c) the

reliability was somewhat higher (Eysenck & Eysenck, 1964).

The Eysenck Personality Questionnaire (EPQ) (Eysenck and Eysenck, 1975) is the latest version of this well known instrument and is constructed with an advantage of introducing a new scale of Psychoticism (P). The 81-item Junior Eysenck Personality Questionnaire was designed for children with a vast age range from 7 to 15. The internal consistency reliabilities (alpha coefficients) for all dimensions are high (see Appendix 5).

A sample of 698 boys and 629 girls in Hong Kong was tested and analysed by Eysenck & Chan (1982). A principal component analysis was employed with factors rotated by varimax and then by promax, using only the first four factors for rotation. The Chinese version of JEPQ and the scoring key, which are slightly different from the original British one for Hong Kong children, were adopted in this study. This version consists of 77 items in which there are

19 items concerning the degree of psychoticism or toughmindedness,

19 items dealing with the issues about extraversion - introversion,

19 items concerning the amount of neuroticism or emotionality,

20 items for lie score or the aspect related to social desirability.

The Chinese version is practicable as it has been recently employed by Tam, Tsoi, Kwong & Wong (1982) in investigating the psychological epidemic in Hong Kong. For the present study, this

Chinese version was revised and most items were re-translated.

The Real Form (Form R) of Family Environment Scale

The Family Environment Scale was designed by Moos (1974) to measure the subjects' perceived interpersonal relationships among family members, the directions of personal growth emphasized in the family, and the system maintenance and system change of the family structure and organization. The Family Environment Scale was composed of the items constructed from information gathered in interviews with members of different types of families and the items from the other social climate scales (Moos, 1974). The Initial 200-item Form A was firstly administered to a sample of over 1000 members from 285 families.

Some items selected were based on a five psychometric criteria. Finally, the practical version of Family Environment Scale has three forms: the real form (Form R), the ideal form (Form I) and the expectations form (Form E). Within the 90-item Form R (see Appendix 6), each of the ten subscales shares 9 items and belongs to either one of the three underlying domains, or sets of dimensions: the relationship dimensions, the personal growth dimensions and the system maintenance dimensions.

The internal consistency and the test-retest reliability for Form R, are high and stable (see Appendix 7).

Without investigating the factor structure of Form R, Chaung (1982) utilized it to study solely the relationship between self concept and family environments. However, it was found that the

reliability coefficients of several subscales were not high enough. To enhance the stability, some items were rewritten before being adopted in this study.

Sampling

To test the hypotheses, students of Form III level at the junior secondary schools were selected from three types of schools -- Boys' Schools , Girls' Schools and Co-educational Schools. All the subjects involved were chosen on the following criteria:

- (1) To minimize the variation in students' personality due to academic ability and age difference, we chose the sample from the same form.
- (2) Generally, no Form III class was streamed as science or arts biased. Therefore, the influence due to the difference of subjects and academic interest could be ignored.
- (3) Conventionally, each student completes his or her three years of compulsory junior secondary education in the same school, to which he or she has been distributed through the Secondary School Places Allocation System. In order to reveal the maximum influence of school settings upon their personalities, Form III pupils were chosen as the subjects for this study.

- (4) The Junior Eysenck Personality Questionnaire, one of the instruments adopted in this study, is originally designed to cover an age range from 7 to 16 (Eysenck & Eysenck, 1975). Pupils of Form III level were sampled since the majority of them was at the age under the upper limit of this range.
- (5) The majority of students at schools, located near or inside the public housing estates, come from the families with similar socio-economic backgrounds. In order to control and minimize the discrepancies in the children's personalities due to the difference of their families' socio-economic status and the physical environment of schools, the schools selected were those with the campus near or inside these estates.
- (6) In the instrument for measuring the perceived Family Environment, a few items were related to the religions of Western Culture. The schools involved were organized by the Roman Catholic or Protestant Church Missions as their students were more familiar with the Western Religions.

Out of the 218 aided or government schools with Form III classes participating in the Junior Secondary Education Assessment, 186 are the Anglo-Chinese schools which dominate in Hong Kong secondary education (Education Department, 1984). Hence, eleven schools of this type were selected. The names of these schools and their corresponding sample sizes were tabulated in Table 3.

Table 3

Sample Size from the Schools chosen

Name of School	Type of Schools	Sub-sample size
Pilot Test :		
Gertrude Simon Lutheran College	Cored.	70
Main Study :		
Immaculate Heart of Mary College	Cored.	82
Baptist Lui Ming Choi Secondary School	Cored.	80
The Methodist Lee Wai Lee College	Cored.	69
St. Benedicts's Secondary Technical School	Cored.	79
St. Bonaventure College & High School	Boys'	73
St. Peter's Anglo-Chinese Secondary School	Boys'	71
Don Bosco Technical School	Boys'	73
DMHC Siu Ming Catholic Secondary School	Girls'	73
St. Antonius Girls' College	Girls'	76
Leung Shek Chee College (Technical)	Girls'	76
Total no. of students involved : 829		

Pilot Test

The Chinese version of the two instruments were firstly administered to a sample of 70 students at a coeducational school in October, 1983. This pilot test was undertaken mainly in order to test the reliability of the two instruments.

The reliability coefficients (Cronbach's Alpha) for each Personality Dimension and each subscale of Form B were shown in Tables 4 and 5 respectively. The Cronbach's Alphas in Table 4 were substantially high and acceptable while some of those in Table 5 were definitely low. All items with 'poor' item-dimension or item-subscale correlations were thoroughly rewritten for the main study.

Procedure

The finalized Chinese version of the two instruments were combined in a reusable booklet (see Appendix 3) which was designed with a separate answer sheet. The question booklet was composed of three sections:

- (1) Section A collecting the information of the subjects' personal background data, such as sex, age and type of schools.

Table 4
Reliability Coefficients of the Personality
Dimensions of JEPQ in the Pilot Test

Dimension	No. of Items	Alpha	Standard Item Alpha
Psychoticism	19	.63	.62
Extraversion	19	.65	.65
Neuroticism	19	.81	.81
Lie or Social Desirability	20	.60	.58

Note. No. of subjects = 70

Table 5
Reliability Coefficients of the Subscales
of Form R in the Pilot Test

Subscale ^a	Alpha	Standard Item Alpha
Cohesion	.71	.72
Expressiveness	.28	.27
Conflict	.59	.59
Independence	.14	.16
Achievement Orientation	.40	.42
Intellectual-Cultural Orientation	.50	.50
Active-Recreational Orientation	.39	.37
Moral-Religious Emphasis	.45	.47
Organization	.37	.39
Control	.55	.57

Note. No. of Subjects = 70

^a No. of items for each subscale = 9

(2) Section B concerning the 81 items of Junior Eysenck Personality Questionnaire and

(3) Section C containing the 90 items of Form R.

Theoretically, we might feel curious about the subjects' degree of honesty in answering the questions when their names were required to be signed on the answer sheets or not. However, no research had ever been conducted to test this matter. In this Main Study, two types of answer sheets (see Appendix 9) were designed accordingly. Form A was set for Task Orientation, in which there was no indication to remind subjects to sign their names while Form B was intended for Ego Orientation in which subjects' names were required.

The subjects selected were administered the questionnaires under the normal teaching classroom atmosphere within forty-five minutes. At the beginning, the teachers invited distributed the answer sheets of Form A to about half of the students who sat at the right hand side of the classroom and those of Form B to the other half who sat at the left hand side. Then, Students were reminded and encouraged to be open, frank, honest and to give their own opinions since there was no right or wrong answer. Practically, no difficulty of administration had been encountered.

Data analyses

The completed answer sheets of both Form A and B were collected within the period from January to March of 1984. The data were then coded and the statistical analyses were undertaken with the assistance of computer using the subprogrammes available in the Statistical Package for Social Science (SPSS) and Statistical Analysis System (SAS).

First of all, a t-test was employed to compare the degree of honesty (the degree of motivation for dissimulation) between the students of the groups for Task and Ego Orientations. If there existed a significant difference between their means, members of these two groups would not be combined for testing the hypotheses.

To avoid the high degree of motivation for dissimulation, the students with the highest 5 % of Lie scores (L) would be screened out in the following procedures if the correlation between N and L was relatively high (approaching or even exceeding -.5) (Eysenck & Eysenck, 1975).

Before investigating all the hypotheses, Canonical Correlation Coefficients were computed to find the inter-relationships between students' personality characteristics and the subscales of their perceived family environment. A Principal Factor Analysis with iteration method was then employed on the original ten subscales of Form R to investigate its factorial structure and extract the dominant orthogonal factors by which these subscales could be accounted for.

For testing hypothesis (1) by a t-test, sex was regarded as

the independent variable while the four personality dimensions were taken as the dependent variables.

For hypothesis (2), the four Personality Dimensions were regarded as the dependent variables while the relevant orthogonal factors of the perceived Family Environment were considered to be the independent variables. Multiple regression analysis was performed to test this hypothesis for boy and girl students respectively. Where the relationships existed, these analyses also tried to find the best linear prediction equation and evaluated the prediction accuracy.

For testing hypothesis (3), subprogramme of t-test was also executed for all pupils. The Type of Schools was taken as the independent variable while the students' Personality Characteristics were the dependent variables.

For testing the interaction effects as stated in hypothesis (4), a subprogram of two-way analysis of variance was adopted. The independent variables were the Sex and the Type of Schools while their personality characteristics were the dependent variables.

When examining hypothesis (5), subprogrammes of two-way analysis of covariance were performed for boys and girls respectively. The Type of Schools and one of the factors of Family Environment were the variates while the other factors of Family Environment were regarded as the covariates. The subjects were grouped into two categories. Forty percent of them with the highest scores in the variate (the factor of their perceived Family Environment) were considered as the High Group while the other 40 % with the lowest scores were classified as the Low Group.

CHAPTER IV RESULTS AND DISCUSSIONS

In the Main Study, the combined questionnaire was administered to 759 students (360 boys and 399 girls) of mean age of 14.44 (14.47 for boys and 14.42 for girls).

Reliabilities of the two Instruments

Junior Eysenck Personality Questionnaire (JEPQ)

Each of the four personality dimensions of the revised Chinese version of JEPQ was measured by 19 or 20 items. The scoring keys of each item were dichotomous. The reliability coefficients (Cronbach's Alpha and Standard Item Alpha) are presented in Table 6. Generally, the reliability coefficients calculated were so high that the internal consistency of JEPQ was implied to be highly reliable.

Form R of Family Environment Scale

The scoring keys of the 90 items of Form R were dichotomous as well. Since nearly all items were rewritten for the main study, most Cronbach's Alpha values displayed in Table 7 for the subscales were improved. Nevertheless, the reliability coefficients of some subscales, such as Expressiveness, Independence and Moral-Religious Emphasis were still as low as the values obtained by Cheung (1982). Therefore, it was desirable for

Table 6
Reliability Coefficients of the Personality
Dimensions of JEPQ in the Main Study

Dimension	No. of Items	Alpha	Standard Item Alpha
Psychoticism	19	.65	.66
Extraversion	19	.73	.73
Neuroticism	19	.81	.81
Lie or Social Desirability	20	.69	.69

Note. No. of subjects = 759

Table 7
Reliability Coefficients of the Subscales
of Form R in the Main Study

Subscale ^a	Alpha	Standard Item Alpha
Cohesion	.82	.82
Expressiveness	.38	.37
Conflict	.73	.72
Independence	.22	.23
Achievement Orientation	.50	.50
Intellectual-Cultural Orientation	.60	.60
Active-Recreational Orientation	.49	.48
Moral-Religious Emphasis	.38	.46
Organization	.45	.46
Control	.48	.50

Note. No. of Subjects = 759

^a No. of items for each subscale = 9

this study to investigate the factorial structure of Form R and to derive the noteworthy new factors for further studies.

Motivation of Dissimulation

Was there any difference in the degree of motivation of dissimulation between the students of the groups for Task and Ego Orientations? Given the data in Table 8, the students who were requested to sign their names on the answer sheets for Ego Orientation scored higher in Lie Score. The difference, however, was not significant. Thus, subjects from the two groups were combined for testing all the hypotheses.

From the results in Table 9, all the three correlations between the dimensions of Neuroticism and Lie Score were relatively low and not exceeding $\sim .5$ so that none of the subjects was needed to be screened out in the following analyses (Eysenck & Eysenck, 1975).

Canonical Correlation Analyses

For investigating the consistent interfaces between Personality Characteristics and the perceived Family Environment, Psychoticism, Extraversion, Neuroticism and Lie Score were considered in the dependent variable set while the original subscales of Form R were regarded as the independent variable set. In order to explain as much as possible the Personality variable

Table 8
Comparison of Means in the Lie Score
between two different groups of Students

Group	No. of Subjects	Mean	SD	t ^a	p
Task Orientation	374	8.04	3.61	-1.31	n.s.
Ego Orientation	378	8.37	3.30		

Note. ^a Degree of Freedom= 750

n.s. = Not Significant

Table 9
Correlation Coefficients (r) between
the Dimensions of Neuroticism and Lie Score

	BOYS	GIRLS	ALL
r	-.26 ^{***}	-.30 ^{***}	-.30 ^{***}

Note. *** p < .001

set from their perceived Family Environment variable set, the subprogram of canonical correlation analysis was conducted for both sexes.

In the analysis for boys (Table 10), two pairs of significant linear combinations were derived. The first pair of canonical variates revealed a pattern that involved the attributions of Neuroticism and Conflict. The amount of total variance shared by this first pair of canonical variates was 33 %. Extraversion, Neuroticism, Lie Score, Conflict and Active-Recreational Orientation dominated the second pair of canonical variates, which shared 15 % of the total variance.

For girls, four pairs of statistically significant functions were obtained (Table 11). The first and largest canonical correlation existed between Neuroticism, Lie Score and Conflict. The second pair of canonical variates involved Extraversion, Neuroticism, Lie Score, Achievement Orientation and Control. The third pair was dominated by Extraversion, the inverse of Lie Score and Active-Recreational Orientation. Finally, the fourth pair of canonical variates was related to the Expressiveness, Conflict and the inverse of Neuroticism. The values of the total variance explained by these four pairs of canonical variates were 31 %, 16 %, 11 % and 4 % respectively.

As a matter of fact, these findings provided a challenging outcome that there would exist significant relationships between the Personality Characteristics and their perceived Family Environment of the Chinese students in Hong Kong. Furthermore, it strengthened the pressing need to investigate the underlying

Table 10
Summary of the Canonical Correlation Analysis for Boys (N = 318)

Pair of Canonical Variates	Eigenvalue	Canonical Correlation	Wilk's Lambda	Chi-square	df	p
1 st	.33	.57	.54	191.55	40	.000
2 nd	.15	.39	.80	68.82	27	.000

Coefficients for Canonical Variables of the First Set

Dimensions	Canonical variate 1	Canonical variate 2
Psychoticism	.31	.01
Extraversion	-.12	-.80
Neuroticism	.71	-.58
Lie or Social Desirability	-.21	-.68

Coefficients for Canonical Variables of the Second Set

Subscales	Canonical variate 1	Canonical variate 2
Cohesion	-.32	-.37
Expressiveness	-.06	-.00
Conflict	.48	-.57
Independence	.06	-.07
Achievement Orientation	-.00	-.34
Intellectual-Cultural Orientation	-.07	-.17
Active-Recreational Orientation	.10	-.45
Moral-Religious Emphasis	.04	-.17
Organization	-.27	-.17
Control	.30	-.02

Table 11
Summary of the Canonical Correlation Analysis for Girls (N = 395)

Pair of Canonical Variates	Eigenvalue	Canonical Correlation	Wilk's Lambda	Chi-square	df	p
1 st	.31	.55	.50	268.05	40	.000
2 nd	.16	.40	.72	127.67	27	.000
3 rd	.11	.32	.86	59.83	16	.000
4 th	.04	.21	.96	17.13	7	.02

Coefficients for Canonical Variables of the First Set

Dimensions	Canonical Variate 1	Canonical Variate 2	Canonical Variate 3	Canonical Variate 4
Psychoticism	-.39	-.17	-.24	1.04
Extraversion	.19	-.68	.76	-.13
Neuroticism	-.49	-.68	-.27	-.66
Lie or Social Desirability	.45	-.68	-.70	.30

Coefficients for Canonical Variables of the Second Set

Subscales	Canonical Variate 1	Canonical Variate 2	Canonical Variate 3	Canonical Variate 4
Cohesion	.30	-.11	.33	.08
Expressiveness	.16	-.02	.12	.82
Conflict	-.52	-.08	.25	.62
Independence	-.21	-.01	-.06	.37
Achievement Orientation	.04	-.44	-.07	-.25
Intellectual-Cultural Orientation	.04	-.23	-.18	-.21
Active-Recreational Orientation	.08	-.38	.80	-.16
Moral-Religious Emphasis	-.07	-.24	-.36	.30
Organization	.20	.18	-.22	-.37
Control	-.17	-.52	-.27	.05

factorial structure of Form R. These results also revealed that a new model with two to four factors would be used to replace the original ten subscales of Moos' model.

Factorial Structure of Family Environment Scale (Form R)

Factor Analysis

A Principal Component Factor Analysis was performed on the original ten subscales for all the 759 subjects. A set of orthogonal factors was firstly derived. By using the scree test (Cattell, 1966), a serial plot of the eigenvalues of these initial factors is shown in Figure 2. Three factors were retained for iteration and Varimax Rotation. Among them, the first two factors had eigenvalues greater than unity which were also satisfied with Kaiser-Guttman Criterion (Cattell, 1978). The factor loadings for all subscales on these three factors after rotation are presented in Table 12.

The present outcome is slightly different from other recent findings (Fowler 1981, 1982a, 1982b; Boake & Salmon, 1983). We could attribute the discrepancies to the influences of different cultures. Dealing with the students in Western countries, they reported two factors which satisfied the scree criterion. The first bipolar factor, namely 'Cohesion vs. Conflict', measured relationship-centered concerns. The second bipolar factor reflected themes related to 'Organization and Control'. In fact, a third factor which accounted for 7.2 % of common variance was

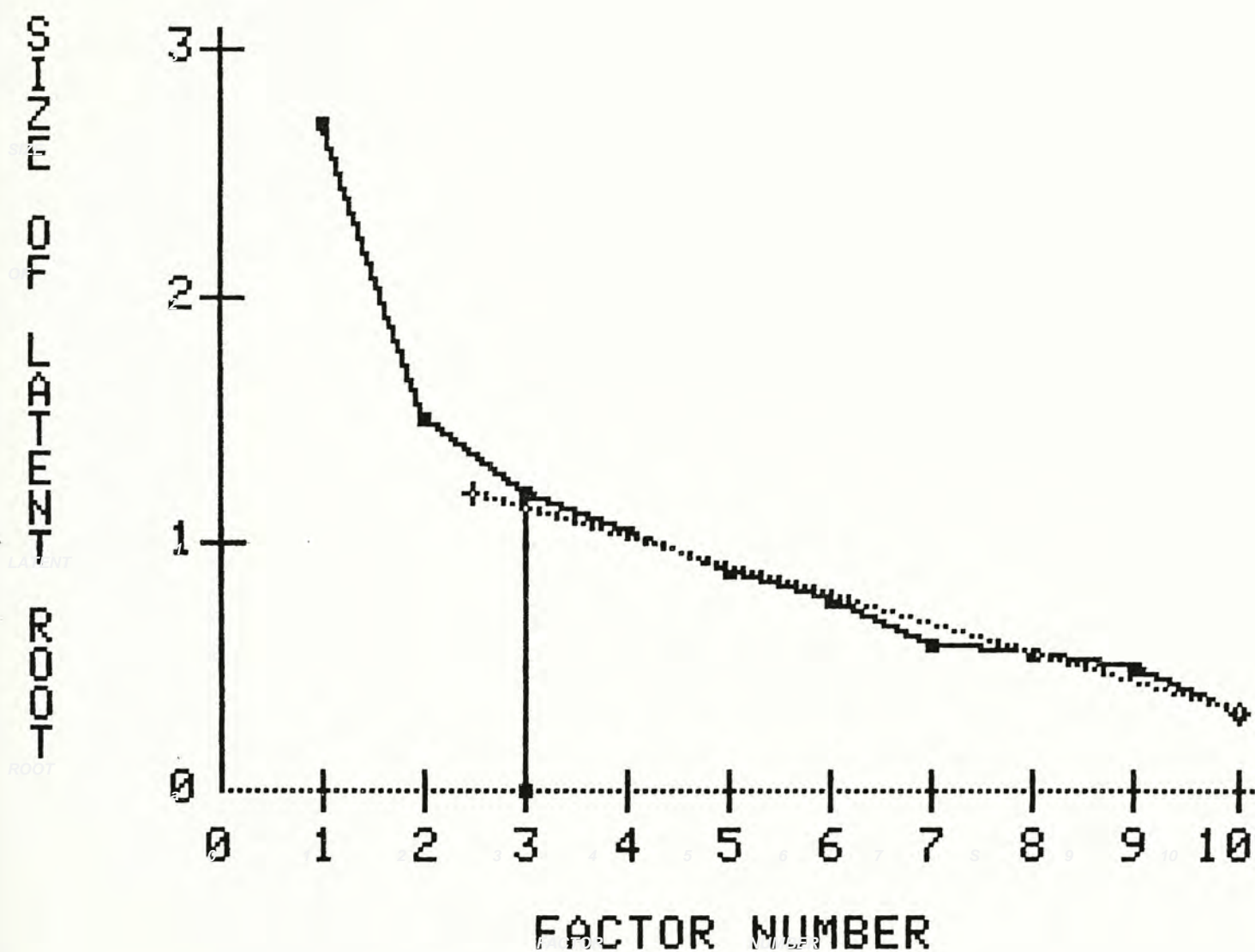


Figure 2 Scree Plot for deciding number of Factors

Table 12
Factor Loadings^a for the Subscales of Form R

Subscale	Factor 1 ^b	Factor 2	Factor 3	Communality
Cohesion	.82	.15	-.31	.79
Expressiveness	.28	.25	-.32	.24
Conflict	-.60	.06	.34	.48
Independence	-.02	.05	-.21	.04
Achievement Orientation	.35	.28	.23	.25
Intellectual-Cultural Orientation	.26	.75	-.05	.63
Active-Recreational Orientation	-.07	.43	-.15	.21
Moral-Religious Emphasis	.28	.34	.08	.20
Organization	.59	.13	.17	.40
Control	-.09	.04	.71	.52
Eigenvalue	1.75	1.04	.98	3.77
Cumulative Variance Explained				37.7%

Note. No. of Subjects = 759

^a Principal Component Factor Analysis with
more than 25 iterations and Varimax rotation

^b Factor 1 -- Cohesion, Organization vs. Conflict

Factor 2 -- Personal Growth

Factor 3 -- Control vs. Expressiveness and Independence

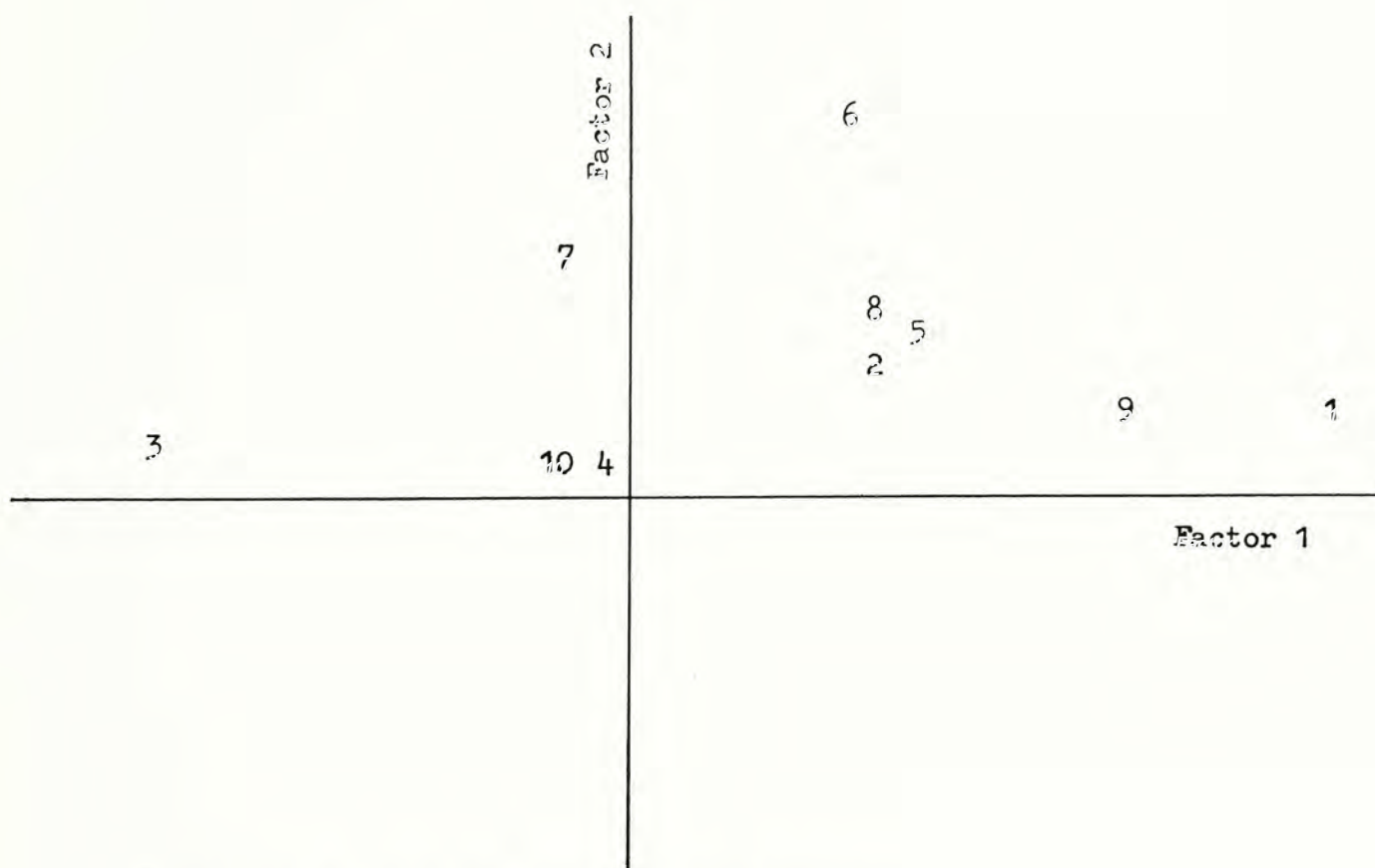


Figure 3 Plot of Factor 1 with Factor 2

- | | |
|-----------------------------|---------------------------------------|
| 1 : Cohesion | 6 : Intellectual-Cultural Orientation |
| 2 : Expressiveness | 7 : Active-Recreational Orientation |
| 3 : Conflict | 8 : Moral-Religious Emphasis |
| 4 : Independence | 9 : Organization |
| 5 : Achievement Orientation | 10 : Control |

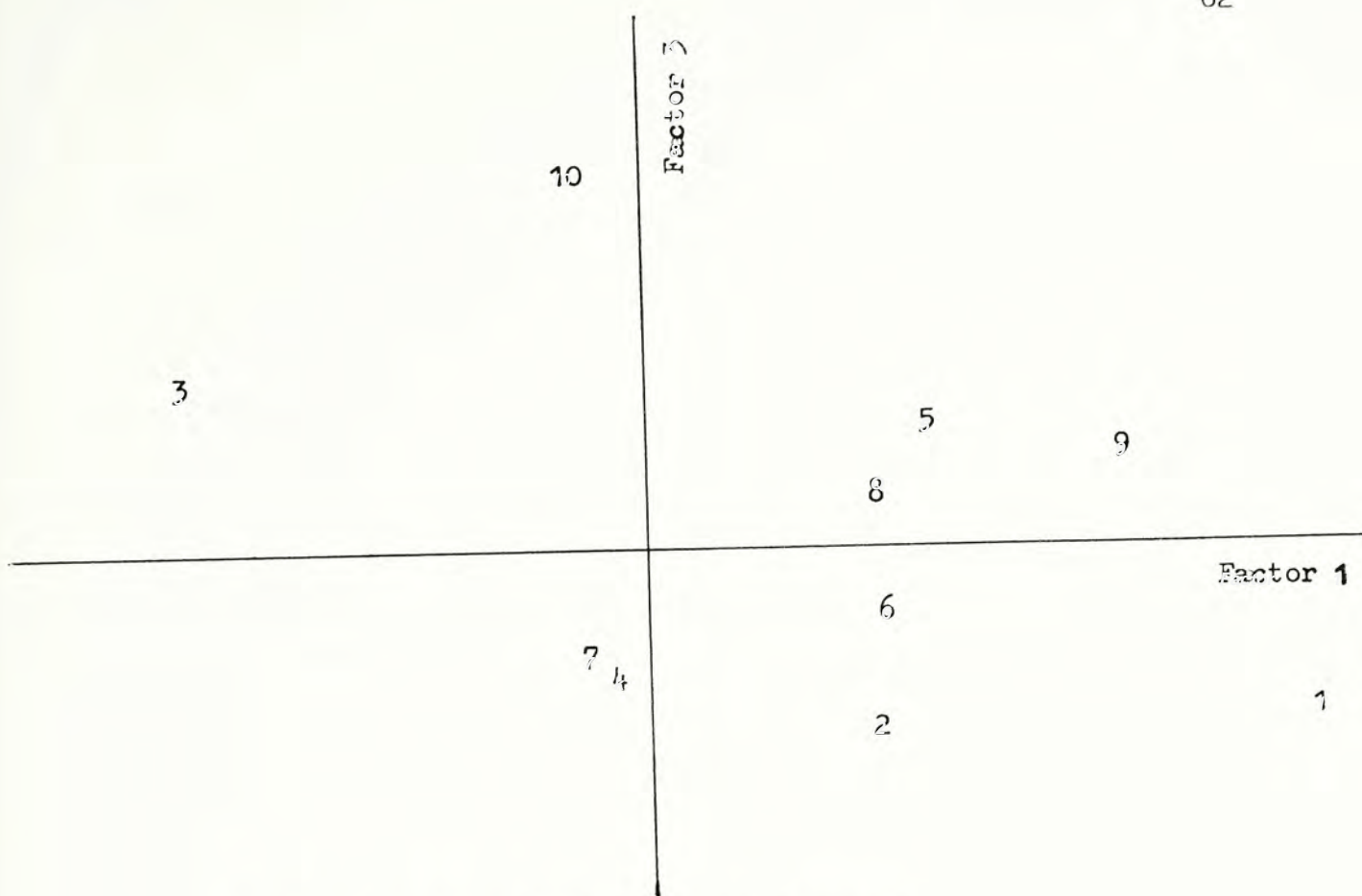


Figure 4 Plot of Factor 1 with Factor 3

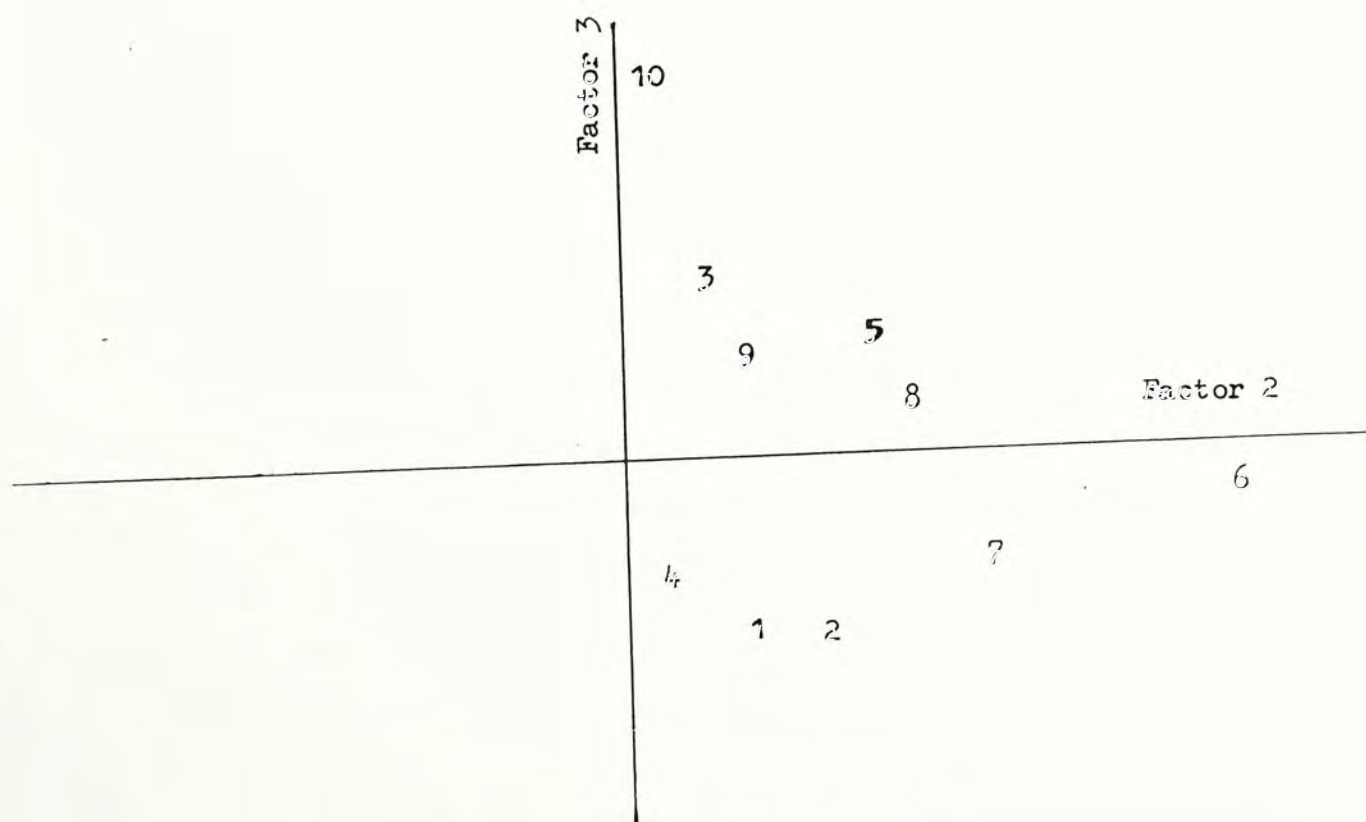


Figure 5 Plot of Factor 2 with Factor 3

found but dismissed in Boake and Salmon's (1983) results.

For the present study, the three extracted factors accounted for 37.7 % of the total variance which was greater than those displayed in Table 3. These three factors are described below.

Factor 1 had salient loadings concerning the dimensions of Cohesion, Conflict and Organization. The contrast between Cohesion and Conflict was proved identical for both Western and Chinese Cultures. Moreover, a clear organization and structure in planning activities and responsibilities were more likely to be found in a Chinese family which was characterized by commitment, and mutual help and support. This factor was a bipolar dimension and was defined as 'Cohesion, Organization vs. Conflict'.

The other dimensions, such as Intellectual-Cultural Orientation, Active-Recreational Orientation and Moral-Religious Emphasis, correlated more with the second factor. Factor 2 was a unipolar dimension and was briefly titled as 'Personal Growth' as it covered the three out of five subscales relating to the Personal Growth Dimension of Moos' model. Indeed, this factor concerned the basic directions along which personal growth and self-enhancement tend to occur in the particular environment.

Factor 3 was dominated by the high loading of Control. Expressiveness and Independence were also classified under this factor since they related relatively more to it. In Chinese Society, the more the family was organized in a hierarchial manner, the less the members were allowed to act openly. As a matter of fact, children who lived in a family with rigid rules

were often discouraged to express their feeling directly, to make their own decisions and to think things out for themselves. As a bipolar dimension, Factor 3 was named as 'Control vs. Expressiveness and Independence'.

Reliability of new Subscales

The responses of all items were sorted to their corresponding factors and then added up to constitute the scores of three new subscales. Item-subscale correlations (see Appendix 10) were inspected so that suitable items could be chosen. Nine unsuitable items (numbered 4, 7, 24, 25, 42, 54, 62, 69 and 85) were omitted in the following analyses since their item-subscale correlations were negative.

Reliability of this three-factor model was tested. As seen in Table 13, the Cronbach's Alpha values for all the three new subscales were substantially high and acceptable. It was concluded that these three new subscales were reasonable to be adopted to replace the original Moos' ten subscales.

As illustrated in Table 14, the means of all the three factors for boys and girls were compared. On the average, boys scored significantly higher in the first two factors. In their perception, family members were more concerned about and committed to the family, and the family was perceived to be more organized. It may be interpreted that traditionally the Chinese boy was more supported by his family members. The feudalistic ideas, because of which the male was valued more than the female, could still be found in many Chinese families of Hong Kong. For the same reason,

Table 13
Reliability Coefficients of the New Subscales of Form R

New Subscale	No. of Items	Alpha	Standard Item Alpha
Cohesion, Organization vs. Conflict	33	.85	.85
Personal Growth	26	.69	.69
Control vs. Expressiveness and Independence	22	.65	.65

Note. No. of subjects = 759

Table 14
Comparison of Means in the New Subscales
of Form R between Boys and Girls

New Subscale	Sex	No. of Subjects	Mean	SD	t	p
Cohesion, Organization vs Conflict	Boys	350	20.21	6.08	1.99	.047
	Girls	398	19.26	6.84		
	All	748	19.70	6.51		
Personal Growth	Boys	352	10.05	3.79	2.10	.036
	Girls	399	9.48	3.68		
	All	751	9.75	3.74		
Control vs. Expressiveness and Independence	Boys	350	10.43	3.39	1.21	n.s.
	Girls	398	10.12	3.63		
	All	748	10.26	3.52		

the Chinese boy placed greater emphasis on Intellectual-Cultural and Active Recreational Activities than the Chinese girl since he was more likely to be expected to achieve higher social status in the future.

Sex Differences in Personality Characteristics

The scores in the four Personality Dimensions for boys and girls are displayed in Table 15. As a whole, the present findings supported the opinions of Eysenck and Eysenck (1975), and Eysenck and Chan (1982) that girls scored lower in Psychoticism and Extraversion but higher in Neuroticism and Lie Score (or Social Desirability) than boys. When compared with the standard deviations, girls showed, in agreement with Latus and Bauman's (1980) findings, less variability in their personality structures. These differences could be explained by the results obtained by Loy and Norland (1981) that there existed a relatively large peer influence for female than for male.

Psychoticism

On the average, Chinese students scored low in Psychoticism. The t value for examining the difference of the means in this dimension between boys and girls was statistically significant (at the level of .001). It can be said that girls were less 'cruel', 'inhumane', 'insensitive', and 'lacking in feeling and empathy' than boys.

Table 15
Comparison of the Means in Personality
Dimensions between Boys and Girls

Dimension	Sex	No. of Subjects	Mean	SD	t	df	p
Psychoticism	Boys	335	4.78	2.87	6.89	731	.000
	Girls	398	3.43	2.44			
	All	733	4.05	2.73			
Extraversion	Boys	347	12.64	3.61	2.76	744	.006
	Girls	399	11.92	3.48			
	All	746	12.26	3.56			
Neuroticism	Boys	355	10.03	4.34	-2.74	750	.006
	Girls	397	10.90	4.33			
	All	752	10.49	4.35			
Lie or Social Desirability	Boys	353	7.50	3.44	-5.31	750	.000
	Girls	399	8.82	3.36			
	All	752	8.20	3.46			

Extraversion

The present results that boys were more extraverted, sociable, outgoing, optimistic and impulsive than girls were in agreement with Lew's analyses (1983a). When compared with Western Countries, children in Hong Kong were less extraverted. It was consistent with the fact that many families in Hong Kong retained the Chinese traditions which encouraged their members to be conservative and introverted. To be taciturn is one of the virtues in Chinese Culture. In fact, Confucius remarked that 'men of old kept silence for fear lest what they said should not come up to what they did', and 'a wise man is ashamed to say much; he prefers to do more' (Ku, 1977, p. 40; p. 119).

Neuroticism

Girls were found to be significantly more anxious, worrying, moody, frequently depressed and emotionally overresponsive than their male classmates. In general, the present findings also proved the conclusion reached by Eysenck and Chan (1982) that Hong Kong Children (both male and female) were more calm, even-tempered, controlled and unworried than their counterparts in Britain.

Lie Score or Social Desirability

It was highly probable (99 % or more) that the tendency of female subjects to 'fake good' was greater than that of male

subjects. The means of this dimension in England were 6.32 and 7.25 for boys and girls (Eysenck & Chan, 1982) respectively which were less than that for Chinese sample listed in Table 3.5. For cross-cultural comparison, the Degree of Social Permissiveness of Western Culture, especially in Britain, was greater than that of Chinese Culture. On the other hand, the extent of children's conformity was larger in Chinese Society.

Hypothesis 1

In general, the null hypothesis 1 that there was no sex difference in the students' personality characteristics as measured by Psychoticism, Extraversion, Neuroticism and Lie Score was rejected.

It was evident that sex differences in students' personality characteristics were highly significant. In order to control these sex differences for testing the effects on students' personality by other variables, the following data analyses were performed separately for boys and girls.

Relationships of Family Environment to Personality

The three derived orthogonal factors of Form R were regarded as the predictor variables in order to test their effects on the criterion variables of students' personality. Subprogrammes of

Stepwise Multiple Regression were performed in which the variable that explained the greatest amount of variance would enter firstly, then the second variable and so on. The relative importance of the factors to boys' and girls' personality characteristics was examined individually.

Psychoticism

Tables 16 and 17 display the percentage of total variance explained by these factors for male and female subjects and the corresponding standard regression coefficients (beta). For both sexes, the factor of 'Cohesion, Organization vs. Conflict' had highly significant beta values. About 12 % of the total variance in Psychoticism for boys could be explained by this factor while 11 % of that for girls. The effects of other two factors, on the other hand, were not significant.

The negative sign of the significant beta values indicates that the predictions were in the opposite direction. For either a boy or a girl, the greater the family members' commitment to the family and the clarity in regard to family rules and responsibilities, the less the score in Psychoticism. In agreement with Brown's (1975), and Forman and Forman's (1981) findings, the present results supported the fact that the family emphasizing the inter-personal relationships will prevent a child from becoming an 'isolated' psychotic.

Table 16
Coefficients of Determination (R^2), Beta Coefficients of the
Predictors in the Regression Analysis of Psychoticism (Boys)

Predictor	R^2	R^2 change	Beta	p
Cohesion, Organization vs Conflict	.12	.12	-.30	.000
Control vs. Expressiveness and Independence	.13	.01	.12	n.s.
Personal Growth	.13	.00	.04	n.s.
Constant = 6.30				

Table 17
Coefficients of Determination (R^2), Beta Coefficients of the
Predictors in the Regression Analysis of Psychoticism (Girls)

Predictor	R^2	R^2 change	Beta	p
Cohesion, Organization vs Conflict	.11	.11	-.34	.000
Personal Growth	.11	.00	.08	n.s.
Control vs. Expressiveness and Independence	.11	.00	.04	n.s.
Constant = 5.00				

Extraversion

As shown in Tables 18 and 19, 'Personal Growth' was the only significant independent variable in predicting the scores of Extraversion for both boys and girls. The two corresponding beta values were highly significant. About 5 % and 6 % of the total variance in Extraversion could be explained by 'Personal Growth' for boys and girls respectively. The results illustrated that a child would be more extraverted, easygoing, optimistic and sociable if he or she was reared in a family which was more concerned about political, social, intellectual and cultural activities. This child would follow the family members to participate actively in various kinds of recreational and sporting activities, and to discuss and emphasize ethical and religious issues and values.

Neuroticism

Tables 20 and 21 indicate all the three factors of the perceived family environment predicted as significant in the score of Neuroticism.

For boys, 'Cohesion, Organization vs. Conflict' had the highest beta value and explained 21 % of the total variance. The second important predictor variable was the 'Control vs. Expressiveness and Independence' which accounted for the additional 3 % of the total variance. 'Personal Growth' was the

Table 18
Coefficients of Determination (R^2), Beta Coefficients of the
Predictors in the Regression Analysis of Extraversion (Boys)

Predictor	R^2	R^2 change	Beta	p
Personal Growth	.05	.05	.19	.000
Control vs. Expressiveness and Independence	.06	.01	-.07	n.s.
Cohesion, Organization vs Conflict	.06	.00	.06	n.s.
Constant = 10.95				

Table 19
Coefficients of Determination (R^2), Beta Coefficients of the
Predictors in the Regression Analysis of Extraversion (Girls)

Predictor	R^2	R^2 change	Beta	p
Personal Growth	.06	.06	.25	.000
Control vs. Expressiveness and Independence	.07	.01	-.04	n.s.
Cohesion, Organization vs Conflict	.07	.00	.01	n.s.
Constant = 10.04				

Table 20
Coefficients of Determination (R^2), Beta Coefficients of the
Predictors in the Regression Analysis of Neuroticism (Boys)

Predictor	R^2	R^2 change	Beta	p
Cohesion, Organization vs Conflict	.21	.21	-.40	.000
Control vs. Expressiveness and Independence	.24	.03	.21	.000
Personal Growth	.26	.02	.13	.005
Constant = 11.50				

Table 21
Coefficients of Determination (R^2), Beta Coefficients of the
Predictors in the Regression Analysis of Neuroticism (Girls)

Predictor	R^2	R^2 change	Beta	p
Control vs. Expressiveness and Independence	.13	.13	.27	.000
Cohesion, Organization vs Conflict	.17	.04	-.27	.000
Personal Growth	.18	.01	.10	.037
Constant = 9.80				

last predictor and explained another additional 2 % of the total variance.

Slightly different from boys, the largest percentage (13 %) of the total variance in Neuroticism for girls was explained by 'Control vs. Expressiveness and Independence'. The additional 4 % and 1 % were contributed by 'Cohesion, Organization vs. Conflict' and 'Personal Growth' respectively.

Comparatively, 'Cohesion, Organization vs. Conflict' was the best predictor in the scorings of Neuroticism for boys while 'Control vs. Expressiveness and Independence' was that for girls. In general, the relationship between Neuroticism and 'Cohesion, Organization vs. Conflict' was negative while that between Neuroticism and the other two predictors were positive. These results were supported by Brown (1975) and Kawash (1982) who reported that children reared in a warm and accepting environment would be at lower levels of anxiety. On the other hand, those who were fostered in an authoritarian style family and who were eager of a greater extent of personal growth would be more worrying, moody and frequently depressed.

Lie Score or Social Desirability

As found in Tables 22 and 23, 'Cohesion, Organization vs. Conflict' was the only significant independent variable in predicting the Lie Score for both sexes. This factor explained 14 % of the total variance for boys and 21 % of that for girls. The present findings proved partly the opinions of Fowler (1982a)

Table 22
Coefficients of Determination (R^2), Beta
Coefficients of the Predictors in the Regression
Analysis of Lie Score or Social Desirability (Boys)

Predictor	R^2	R^2 change	Beta	p
Cohesion, Organization vs Conflict	.14	.14	.32	.000
Personal Growth	.15	.01	.10	n.s.
Control vs. Expressiveness and Independence	.15	.00	-.06	n.s.
Constant = 3.45				

Table 23
Coefficients of Determination (R^2), Beta
Coefficients of the Predictors in the Regression
Analysis of Lie Score or Social Desirability (Girls)

Predictor	R^2	R^2 change	Beta	p
Cohesion, Organization vs Conflict	.21	.21	.46	.000
Control vs. Expressiveness and Independence	.21	.00	.08	n.s.
Personal Growth	.21	.00	.07	n.s.
Constant = 3.08				

that Social Desirability was positively related to Cohesion, Intellectual-Cultural Orientation, Active ~~Recreational~~ Recreational Orientation, Organization and Control, but negatively correlated with Conflict.

Hypothesis 2

As a whole, the null hypothesis 2 indicating no relationship between students' Personality Dimensions or Characteristics and the relevant factors of their perceived Family Environment was rejected.

Relationships of Type of Schools to Personality

With the results presented in Table 24, students studied in Co-educational Schools scored slightly higher in Psychoticism, Extraversion and Lie Score but slightly lower in Neuroticism than their counterparts in Single-Sex Schools. However, the differences in these four Personality Characteristics were not significant.

Hypothesis 3

Since there was no significant effect on the students' personality characteristics by Type of Schools, the hypothesis 3 could not be rejected for the Chinese students in Hong Kong.

Table 24
Comparison of Means in the Personality dimensions
of JEPQ between Students from different Types of Schools

Dimension	Group	No. of Subjects	Mean	SD	t	df	p
Psychoticism	Co-educational						
	Sch.	308	4.07	2.76	.14	731	n.s.
	Single-Sex Sch.	425	4.04	2.72			
Extraversion	Co-educational						
	Sch.	309	12.31	3.53	.35	744	n.s.
	Single-Sex Sch.	437	12.22	3.58			
Neuroticism	Co-educational						
	Sch.	306	10.25	4.41	-1.27	750	n.s.
	Single-Sex Sch.	446	10.66	4.31			
Lie or Social Desirability	Co-educational						
	Sch.	307	8.44	3.48	1.60	750	n.s.
	Single-Sex Sch.	445	8.03	3.44			

Interaction Effects by Sex and Type of Schools in Personality

Hypothesis 4

As shown in Table 25, the two-way analysis of variance revealed a significant ordinal interaction in the scorings of Neuroticism by the variables of Sex and Type of Schools. In Figure 6, boys from either Co-educational or Single-Sex Schools obtained lower scores in Neuroticism than girls. Type of Schools had little effect for girls, but boys from Co-educational Schools scored especially lower than all other students. None of the similar interaction effects was observed for the other three Personality Characteristics. Thus, the null hypothesis 4 was partially rejected.

Sex and Type of Schools were further grouped to formulate a new independent variable in order to test their combined effects on students' personality. Subjects were subdivided into four categories : Boys in Co-ed. Schools, Girls in Co-ed. Schools, Boys in Single-Sex Schools and Girls in Single-Sex Schools. A subprogram of One-way Analysis adopting Duncan's Multiple Range Test was performed. The mean scores on each Personality Dimension for these four categories are displayed in Table 26.

Table 25
Analysis of Variance (F values) of
Personality Dimensions by Type of Schools and Sex

Dimension	Effect		
	Type of Schools	Sex	(2-way interaction)
			Type of Sch. X Sex
Psychoticism	.01	46.77***	1.12
Extraversion	.01	8.10**	.31
Neuroticism	1.22	8.82**	3.96*
Lie or (Social Desirability)	1.35	28.14***	1.76

Note. * $p < .05$
 ** $p < .01$
 *** $p < .001$

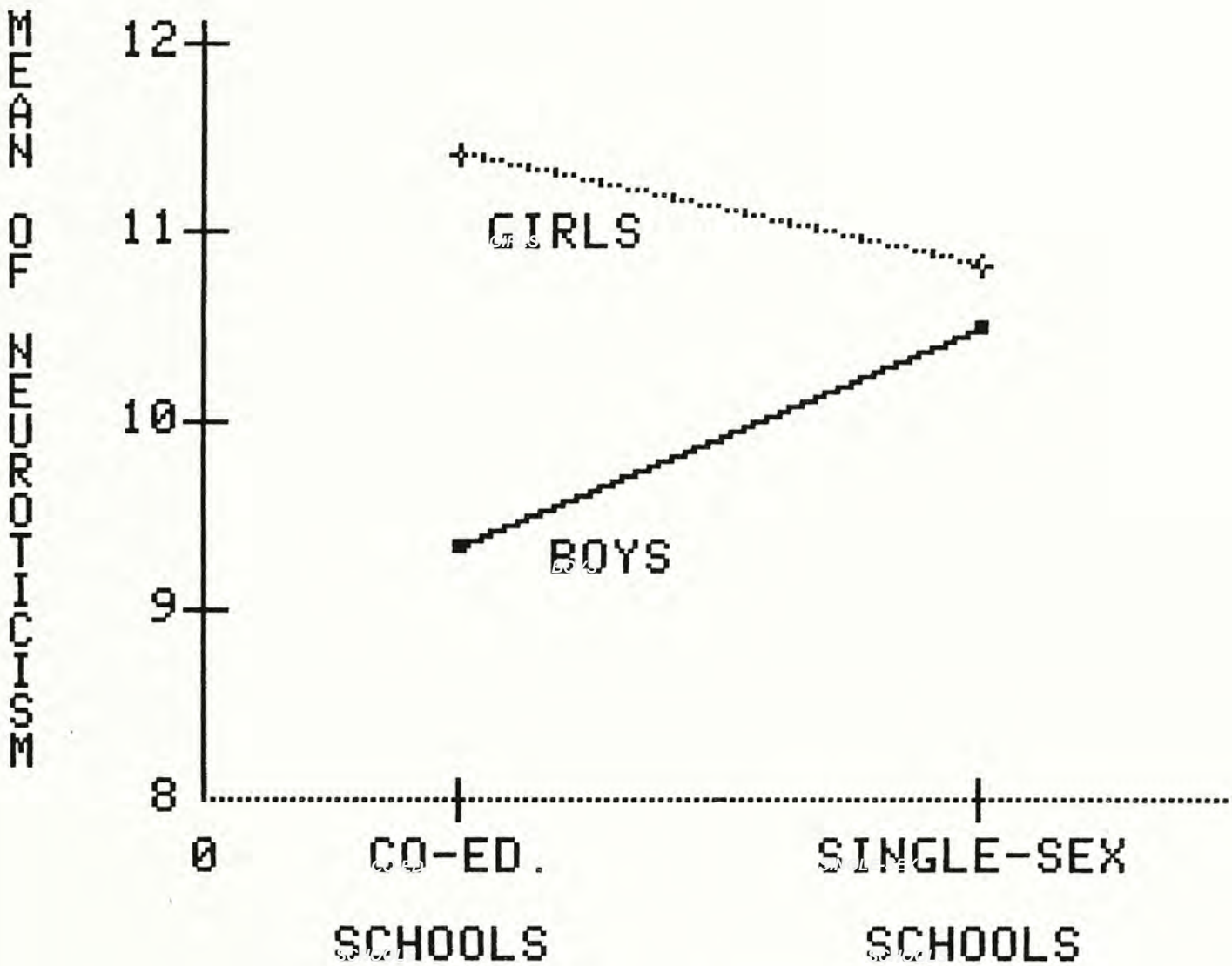


Figure 6 Plot of Means of Neuroticism for different groups of students

Table 26
Comparison of Means in Personality
Dimensions by Type of Schools and Sex

Dimension	Type of Schools				F
	Co-ed. Schools		Single-Sex Schools		
	Boys	Girls	Boys	Girls	
Psychoticism	4.66 _b	3.55 _a	4.87 _b	3.34 _a	16.17***
Extraversion	12.83 _b	11.87 _a	12.51 _{a,b}	11.96 _a	2.77*
Neuroticism	9.33 _a	11.04 _b	10.50 _b	10.81 _b	4.70**
Lie or Social Desirability	7.95 _b	8.86 _c	7.21 _a	8.79 _c	10.77***

Note. * $p < .05$

** $p < .01$

*** $p < .001$

According to Duncan's Multiple Range Test, the means with same footnote (a, b or c) were in same homogeneous subset.

The following relation was significant:

(Means in subset_a < Means in subset_b < Means in subset_c)

Psychoticism

When compared with girls, boys from either a Co-ed. School or a Boys' School were significantly more troublesome, hostile and aggressive to others. They tended to disregard danger and preferred unusual things. They did not care for others, but liked to make fools of and upset them.

Extraversion

For this dimension, boys studying in Co-ed. Schools were more outgoing, impulsive, sociable, carefree, easygoing and optimistic. Girls from both types of schools, on the other hand, were more introverted.

Neuroticism

Boys in Single-Sex Schools and girls in both types of schools scored higher in Neuroticism. Boys in Co-ed. Schools, however, were more calm, even-tempered, controlled and unworried. Applying Brown's (1975) interpretation, these boys would show greater abilities to tolerate imperfections in others.

Lie Score or Social Desirability

Girls from both types of schools were more likely to 'fake good' or we might say that they were more conforming. Boys from Single-Sex Schools were less dissimulating and hence less conforming to the needs and expectations of others.

Interaction Effects by Family Environment and Type of Schools on Personality

The argument that students' personality characteristics would depend upon the factors of their perceived family environment had already been proved and reported earlier. In accordance with the results of Multiple Regression, at least one or simultaneously all the three factors of Family Environment Scale had significant beta values in predicting the scorings on personality dimensions. It was worthy to investigate the influences on personality by each factor (variate) of family environment while the effects of the other two factors (covariates) were controlled. Furthermore, did the effect by each factor of the family environment and that by the type of schools interact? Subprogrammes of Analysis of Covariance were executed for both sexes. The notable results were retrieved and discussed in the order of the following variates.

Cohesion, Organization vs. Conflict

As seen in Table 27, when both the covariates of 'Personal Growth' and 'Control vs. Expressiveness and Independence' were combined, they affected significantly every personality characteristic. By taking into account the correlation between the dependent variables and covariates, the findings showed that there still existed the significant effects on Psychoticism, Neuroticism

Table 27
Analysis of Variance (F values) of Personality Dimensions
by the Factors of Cohesion, Organization vs. Conflict and
Type of Schools with the Covariates of Personal Growth
and Control vs. Expressiveness controlled (Boys)

Dimension	Covariates			Variates			
	Control vs.		Both Covariates combined	Cohesion, Organization vs. Conflict		Main Effects	2-way Interaction
	Personal Growth	Expressiveness & Independence		Type of Schools			
Psychoticism	1.79	16.10 ^{***}	10.12 ^{***}	13.10 ^{***}	.11	6.56 ^{**}	3.38
Extraversion	9.59 ^{**}	4.31 [*]	8.25 ^{***}	1.33	.04	.67	.68
Neuroticism	.03	63.05 ^{***}	32.22 ^{***}	33.77 ^{***}	1.72	17.34 ^{***}	.00
Lie or Social Desirability	13.12 ^{***}	10.26 ^{**}	14.04 ^{***}	14.69 ^{***}	2.72	8.35 ^{***}	3.04

Note. * p < .05
** p < .01
*** p < .001

Table 28
Multiple Classification Analysis of Psychoticism by the Factors
of Cohesion, Organization vs. Conflict and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
4.73	Cohesion, Organization vs. Conflict				
	1. Low Group ^b	.91		.71	
	2. High Group	-.91		-.71	
			.31		.24
	Type of Schools				
	1. Co-educational Schools	-.09		-.07	
	2. Single-Sex Schools	.06		.05	
			.03		.02

$R^2 = .12$

Note. ^a Covariates --- Personal Growth and
Control vs. Expressiveness and Independence

^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 29
Multiple Classification Analysis of Neuroticism by the Factors
of Cohesion, Organization vs. Conflict and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
9.98	Cohesion, Organization vs. Conflict				
	1. Low Group ^b	1.97		1.54	
	2. High Group	-1.97		-1.54	
			.45		.36
	Type of Schools				
	1. Co-educational Schools	-.47		-.38	
	2. Single-Sex Schools	.30		.24	
			.09		.07
<hr/> R ² = .29 <hr/>					

Note. ^a Covariates --- Personal Growth and
Control vs. Expressiveness and Independence
^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 30
Multiple Classification Analysis of Lie Score or
Social Desirability by the Factors of Cohesion,
Organization vs. Conflict and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
7.50	Cohesion, Organization vs. Conflict				
	1. Low Group ^b	-1.21		-.93	
	2. High Group	1.21		.93	
			.33		.25
	Type of Schools				
	1. Co-educational Schools	.44		.44	
	2. Single-Sex Schools	-.28		-.28	
			.09		.10
$R^2 = .15$					

Note. ^a Covariates --- Personal Growth and
Control vs. Expressiveness and Independence
^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

and Lie Score by the variate of 'Cohesion, Organization vs. Conflict'.

In Table 28, boys with high scores in this variate showed 1.82 lower in the means of Psychoticism than those with low scores. When the confounding effects of the covariates were controlled, there remained a 1.42 difference but the eta value was reduced from .31 to .24. Twelve percent of the total variance was explained by the variates and covariates. Similarly, Tables 29 and 30 illustrated how the deviations and eta values concerning Neuroticism and Lie Score decreased when the effects of both covariates were controlled.

In Table 31, both covariates, when combined, significantly influenced girls' four personality characteristics. By taking into account the correlation between the dependent variables and covariates, the results indicated that Psychoticism, Neuroticism and Lie Score still significantly depended upon 'Cohesion, Organization vs. Conflict'. Tables 32, 33 and 34 show the variations of the deviations and eta values while both covariates were unadjusted or adjusted for.

In general, a child fostered in a family with good inter-personal relationships and clarified rules and responsibilities would significantly be more humane, sensitive, stable, even-tempered, controlled, unworrying and caring for others. Moreover, this child would have a comparatively high degree of conformity.

Table 31
Analysis of Variance (F values) of Personality Dimensions
by the Factors of Cohesion, Organization vs. Conflict and
Type of Schools with the Covariates of Personal Growth
and Control vs. Expressiveness controlled (Girls)

Dimension	Covariates			Variates			
	Control vs.		Both Covariates combined	Cohesion, Organization vs. Conflict	Type of Schools	Main Effects	2-way Interaction
	Personal Growth	Expressiveness & Independence					
Psychoticism	.98	10.17**	6.27**	38.24***	.27	19.19***	.44
Extraversion	17.24***	.11	9.16***	.03	.28	.15	.65
Neuroticism	.77	47.72***	25.96***	11.38***	.02	5.69**	1.92
Lie or (Social Desirability)	21.44***	4.78*	15.20***	68.85***	.61	34.60***	.05

Note. * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 32
Multiple Classification Analysis of Psychoticism by the Factors
of Cohesion, Organization vs. Conflict and Type of Schools (Girls)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
3.60	Cohesion, Organization vs. Conflict				
	1. Low Group ^b	.95		.99	
	2. High Group	-.90		-.93	
			.37		.38
	Type of Schools				
	1. Co-educational Schools	.09		.08	
	2. Single-Sex Schools	-.07		-.06	
			.03		.03
$R^2 = .14$					

Note. ^a Covariates --- Personal Growth and
Control vs. Expressiveness and Independence
^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 33
Multiple Classification Analysis of Neuroticism by the Factors
of Cohesion, Organization vs. Conflict and Type of Schools (Girls)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
10.97	Cohesion, Organization vs. Conflict				
	1. Low Group ^b	1.48		.93	
	2. High Group	-1.40		-.88	
			.33		.20
	Type of Schools				
	1. Co-educational Schools	.15		.04	
	2. Single-Sex Schools	-.11		-.03	
			.03		.01
$R^2 = .17$					

Note. ^a Covariates --- Personal Growth and
Control vs. Expressiveness and Independence
^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 34
Multiple Classification Analysis of Lie Score or
Social Desirability by the Factors of Cohesion,
Organization vs. Conflict and Type of Schools (Girls)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
	Cohesion, Organization vs. Conflict				
	1. Low Group ^b	-1.67		-1.70	
	2. High Group	1.58		1.61	
8.93			.47		.48
	Type of Schools				
	1. Co-educational Schools	-.10		-.15	
	2. Single-Sex Schools	.08		.11	
			.03		.04
$R^2 = .24$					

Note. ^a Covariates --- Personal Growth and
Control vs. Expressiveness and Independence
^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Personal Growth

It is presented in Table 35 that the two covariates of the other two factors highly affected boys' scorings in Psychoticism, Neuroticism and Lie Score when they were combined (at .001). After being adjusted for these two covariates, the scorings in the dimensions of Extraversion, Neuroticism and Lie Score for the high group of this variate were still significantly different from those for the low group.

Tables 36, 37 and 38 displayed the Multiple Classification Analyses of the three Personality Dimensions. For male subjects, if their families were more concerned about intellectual, cultural, recreational, sporting and ethical activities, they were more sociable, optimistic and easygoing. They conformed themselves to others but sometimes they were anxious and worrying.

The data presented in Table 39 for girls indicate that the two covariates exerted joint effects on the dimensions of Psychoticism, Neuroticism and Lie Score but not on that of Extraversion. When the effects of these covariates were removed, Extraversion was the only dimension which was significantly based on this variate, 'Personal Growth'. Since the eta remained constant in Table 40, the 9 % of total variance in Extraversion was wholly explained by this variate. Thus, if their families were more concerned about intellectual, cultural, recreational, sporting and ethical activities, the girls would be more sociable, optimistic and easygoing.

Table 35
Analysis of Variance (F values) of Personality Dimensions
by the Factors of Personal Growth and Type of Schools
with the Covariates of Cohesion, Organization vs. Conflict
and Control vs. Expressiveness controlled (Boys)

Dimension	Covariates			Variates			
	Cohesion, Organization vs. Conflict	Control vs. Expressiveness & Independence	Both Covariates combined	Personal Growth	Type of Schools	Main Effects	2-way Interaction
Psychoticism	24.89 ^{***}	2.16	21.47 ^{***}	2.50	.37	1.35	.33
Extraversion	.52	3.40	3.27	9.26 ^{**}	.15	4.64	.24
Neuroticism	38.91 ^{***}	8.16 ^{**}	40.33 ^{***}	5.39 [*]	3.26	3.93 [*]	.95
Lie or Social Desirability	29.97 ^{***}	.84	22.52 ^{***}	5.50 [*]	2.73	4.57 [*]	.17

Note. * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 36
Multiple Classification Analysis of Extraversion by the
Factors of Personal Growth and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
12.83	Personal Growth				
	1. Low Group ^b	-.75		-.70	
	2. High Group	.72		.67	
			.21		.20
	Type of Schools				
	1. Co-educational Schools	.05		-.10	
	2. Single-Sex Schools	-.04		.07	
			.01		.02

$R^2 = .06$

Note. ^a Covariates --- Cohesion, Organization vs Conflict and
Control vs. Expressiveness and Independence

^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 37
Multiple Classification Analysis of Neuroticism by the
Factors of Personal Growth and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
9.77	Personal Growth				
	1. Low Group ^b	.03		-.59	
	2. High Group	-.03		.56	
			.01		.13
	Type of Schools				
	1. Co-educational Schools	-.57		-.53	
	2. Single-Sex Schools	.40		.37	
			.11		.10
$R^2 = .27$					

Note. ^a Covariates --- Cohesion, Organization vs Conflict and
Control vs. Expressiveness and Independence

^b low group = the 40% of students with the lowest scores

high group = the 40% of students with the highest scores

Table 38
Multiple Classification Analysis of Lie Score or
Social Desirability by the Factors of
Personal Growth and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
7.61	Personal Growth				
	1. Low Group ^b	-.87		-.51	
	2. High Group	.83		.49	
			.24		.14
	Type of Schools				
	1. Co-educational Schools	.50		.41	
	2. Single-Sex Schools	-.35		-.29	
			.12		.10
$R^2 = .18$					

Note. ^a Covariates --- Cohesion, Organization vs Conflict and
Control vs. Expressiveness and Independence

^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 39
 Analysis of Variance (F values) of Personality Dimensions
 by the Factors of Personal Growth and Type of Schools
 with the Covariates of Cohesion, Organization vs. Conflict
 and Control vs. Expressiveness controlled (Girls)

Dimension	Covariates			Variates			
	Cohesion, Organization vs. Conflict	Control vs. Expressiveness & Independence	Both Covariates combined	Personal Growth	Type of Schools	Main Effects	2-way Interaction
Psychoticism	36.89***	.36	24.49***	1.39	.14	.79	.15
Extraversion	2.03	1.47	3.01	25.49***	.70	12.93***	.08
Neuroticism	20.51***	21.43***	36.23***	1.11	.51	.85	.26
Like or Social Desirability	86.66***	1.27	48.08***	1.36	.02	.68	.03

Note. * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 40
Multiple Classification Analysis of Extraversion by the
Factors of Personal Growth and Type of Schools (Girls)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
11.96	Personal Growth				
	1. Low Group ^b	-.95		-.94	
	2. High Group	1.11		1.10	
			.29		.29
	Type of Schools				
	1. Co-educational Schools	-.18		-.19	
	2. Single-Sex Schools	.12		.13	
			.04		.05
$R^2 = .09$					

Note. ^a Covariates --- Cohesion, Organization vs Conflict and
Control vs. Expressiveness and Independence
^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Control vs. Expressiveness and Independence

The F values listed in Tables 41 and 43 for boys and girls respectively show that all the students' personality characteristics were affected by the covariates of the other two factors when they were combined. By controlling the effects due to these covariates, the results imply that the dimension of Neuroticism was still highly influenced by this variate. When adjusted for the covariates, boys who scored high in the factor of 'Control vs. Expressiveness and Independence' would be 1.5 higher in the mean of Neuroticism than those of the low group (see Table 42). Similarly, girls of high group would score, on an average, 1.91 higher in Neuroticism (see Table 44).

Therefore, if children were reared in the families organized in a hierarchical manner with rigid rules, and if they were not encouraged to express their feelings and to assert their own decisions, they would be emotionally overresponsive and would become anxious, worrying, moody and frequently depressed.

Hypothesis 5

It is shown in Tables 27, 31, 35, 39, 41 and 43 that the F values for the two-way interaction varied from .00 to 3.38. Nevertheless, none of them is statistically significant. Hence, hypothesis 5 that there was no interaction effect on students' personality characteristics by each factor of Family Environment and Type of Schools was retained.

Table 41
Analysis of Variance (F values) of Personality Dimensions
by the Factors of Control vs. Expressiveness and Type of
Schools with the Covariates of Cohesion, Organization
vs. Conflict and Personal Growth controlled (Boys)

Dimension	Covariates			Variates			
	Cohesion, Organization vs. Conflict	Both Personal Growth	Both Covariates combined	Control vs. Expressiveness & Independence	Type of Schools	Main Effects	2-way Interaction
Psychoticism	36.64***	.70	19.01***	.43	.19	.34	1.41
Extraversion	2.55	8.33**	7.73***	.50	.00	.25	1.72
Neuroticism	74.15***	3.79	37.46***	7.22**	5.23*	6.84***	.61
Lie or Social Desirability	25.70***	4.49*	20.72***	1.24	1.59	1.56	2.05

Note. * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 42
Multiple Classification Analysis of Neuroticism by the Factors
of Control vs. Expressiveness and Type of Schools (Boys)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
9.98	Control vs. Expressiveness & Independence				
	1. Low Group ^b	-1.52		-.73	
	2. High Group	1.60		.77	
			.35		.17
	Type of Schools				
	1. Co-educational Schools	-.66		-.64	
	2. Single-Sex Schools	.52		.51	
			.13		.13
$R^2 = .27$					

Note. ^a Covariates --- Cohesion, Organization vs Conflict and
Personal Growth

^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Table 43
Analysis of Variance (F values) of Personality Dimensions
by the Factors of Control vs. Expressiveness and Type of
Schools with the Covariates of Cohesion, Organization
vs. Conflict and Personal Growth controlled (Girls)

Dimension	Covariates			Variates			
	Cohesion, Organization vs. Conflict	Both Personal Growth	Both Covariates combined	Control vs. Expressiveness & Independence	Type of Schools	Main Effects	2-way Interaction
Psychoticism	58.41***	4.22*	29.59***	.02	.46	.24	.20
Extraversion	.05	20.97***	12.67***	.99	.63	.83	1.07
Neuroticism	60.43***	2.87	31.08***	17.48***	.20	8.91***	.07
Lie or Social Desirability	69.03***	1.79	46.03***	.31	.00	.15	1.31

Note. * $p < .05$
 ** $p < .01$
 *** $p < .001$

Table 44
Multiple Classification Analysis of Neuroticism by the Factors
of Control vs. Expressiveness and Type of Schools (Girls)

Grand Mean	Variable and Category	Unadjusted		Adjusted for Independents + Covariates ^a	
		Deviation	eta	Deviation	Beta
11.03	Control vs. Expressiveness & Independence				
	1. Low Group ^b	-1.45		-.95	
	2. High Group	1.46		.96	
			.34		.22
	Type of Schools				
	1. Co-educational Schools	.15		.11	
	2. Single-Sex Schools	-.11		-.08	
			.03		.02
$R^2 = .19$					

Note. ^a Covariates --- Cohesion, Organization vs Conflict and
Personal Growth

^b low group = the 40% of students with the lowest scores
high group = the 40% of students with the highest scores

Limitations

The present study was constrained by certain limitations which are described below.

(1) It was not a stratified random sample. The subjects involved were the Chinese students in the Anglo-Chinese Grammar and Technical Schools.

(2) The schools selected were organized by either the Catholic or the Protestant Church Missions. Those sponsored by other religious bodies were excluded as some items of Form R concerned with Western Religions only.

(3) Personality is such a complex and subjective subject that no universal agreement on its definitions is committed to by all theorists. In this study, the students' personality was measured by JEPQ. Although JEPQ is a famed instrument, there exist other important tools derived from different approaches (e.g., Sixteen Personality Factor Questionnaire [16PF], Minnesota Multiphasic Personality Inventory [MMPI] and California Psychological Inventory [CPI]) which were not used in the present research.

Recommendations

In view of the findings and limitations of the present study, the following recommendations are suggested for further research:

(1) In this study, no significant difference was detected in the degree of motivation of dissimulation between the students of the groups for Task and Ego Orientations. Therefore, it is recommended that there would be no need to feel curious about the subjects' degree of honesty in answering the questions when their names are required to be signed on the answer sheets.

(2) The reliability coefficients of the three derived factors of Form R were comparatively high and acceptable. It is recommended that this new model may be more suitable than Moos' original ten-subscale model for measuring the Chinese adolescents' perceived family environment.

(3) This study revealed some cultural impacts both on the students' perceived family environment and on their personality. It is noteworthy for further research to scrutinize the cultural impacts in depth and also the influences of other factors, such as the number of siblings, the birth order of the child in a family, the classroom environment and the teachers' behaviour.

(4) Besides IEPQ, there are other famed instruments for evaluating the adolescents' personality. Further investigations may as well use 16PF, MMPI and/or CPI to compare their results with those of the present study.

CHAPTER V SUMMARY

The method adopted in the present study was a survey research. The revised Chinese version of two standard instruments, the Junior Eysenck Personality Questionnaire (JEPQ) and the Family Environment Scale (Form R), were combined in a questionnaire which was administered to 759 students under normal teaching classroom atmosphere within forty-five minutes. The subjects of mean age of 14.44 were selected from ten schools, which included four co-educational schools, three boys' and three girls' schools.

The scoring of each item of both instruments was dichotomous. The internal consistency of JEPQ was highly reliable as the reliability coefficients of the dimensions, P, E, N and L, were substantially high. On the other hand, the reliability coefficients of the subscales of Form R were so low that to investigate the factorial structure of this scale became desirable.

The significant results derived from the present study are summarized below.

Motivation of Dissimulation

Two types of answer sheets were designed. Form A was set for Task Orientation with no indication to remind subjects to sign their names. Form B was intended for Ego Orientation in which subjects' names were required. The means of Lie Score for these two groups of students were compared but the difference was not

significant. Thus, the degrees of motivation of dissimulation between the two groups of students for Task and Ego Orientations were similar.

Interfaces between Personality and Family Environment

Canonical Correlation Analysis was employed to investigate the consistent interfaces between Personality Characteristics and the dimensions of Form R. Two pairs and four pairs of canonical variates were derived for boys and girls respectively. These findings provided two challenging outcomes:

(1) there existed significant relationships between students' personality and their perceived family environment.

(2) it revealed that a new model of two to four factors would be more suitable for measuring the Chinese students' perceived family environment than the original Moos' ten subscale Model.

Factorial Structure of Form R

According to recent researches (Fowler, 1981, 1982a, 1982b; Beake & Salmon, 1983), the original ten subscales of Form R can be accounted for by two orthogonal dimensions. In the present study, the same Principal Component Factor Analysis by adopting scree criterion was conducted but three instead of two factors were extracted for iteration and Varimax Rotation. The discrepancies could be attributed to the influences of different cultures.

Factor 1 was a bipolar dimension, namely 'Cohesion, Organization vs. Conflict', which measured the relationship-centered concerns and the organization in a family. A clear organization and structure in planning activities and

responsibilities was more likely to be found in a Chinese family which was characterized by commitment, and mutual help and support. Factor 2, a unipolar dimension, was defined as 'Personal Growth' as it covered the three out of five subscales belonging to the Personal Growth Dimensions of Moos' Model. This second factor concerned the basic directions along which personal growth and self-enhancement tended to occur in the particular environment. Factor 3 was bipolar as well and was defined as 'Control vs. Expressiveness and Independence'. In Chinese Society, children who lived in a family with rigid rules were often discouraged to express their own feeling, to think things out for themselves and to make their own decisions. As a whole, these three factors accounted for 37.7 % of the total variance.

The reliability coefficients of the newly derived factors were comparatively high and acceptable, this three-factor model was therefore adopted in the present study. Furthermore, this new model was also more suitable than the original Moos' ten-subscale model for measuring the Chinese students' perceived family environment.

Sex Differences in the perceived Family Environment

When compared with girls, boys scored significantly higher in the first two factors. The feudalistic ideas, because of which the male was valued more than the female, was still found retained in some families of Hong Kong. On the average, a Chinese boy perceived that his family members were more concerned about and committed to the family, and that his family was more organized.

Moreover, he placed greater emphasis on Intellectual-Cultural and Active Recreational Activities since he was more likely to be expected to achieve higher social status in the future.

Sex Differences in Personality Characteristics

It was validated that girls scored significantly lower in Psychoticism and Extraversion but higher in Neuroticism and Lie Score (or Social Desirability) than boys. In general, girls were less cruel, inhumane, insensitive, sociable, optimistic and impulsive. On the other hand, girls were more anxious, worrying, frequently depressed, emotionally overresponsive and more likely to 'fake good'. The null hypothesis 1 that there was no sex difference in the students' personality characteristics was therefore rejected.

Cultural Impacts on Students' Personality

It was in agreement with Eysenck and Chan's (1982) findings that Chinese children were less extraverted but more calm, even-tempered, controlled and unworrying than their counterparts in Western countries, especially in Britain. Since the degree of Social Permissiveness was relatively small in Chinese Culture, Chinese children in Hong Kong conformed themselves more to others. In fact, to be conservative, to be taciturn and to control one's conduct in accordance with social rites are the virtues in Chinese Culture (Ku, 1977).

Relationships of Family Environment to Personality

Stepwise Multiple Regression was employed to evaluate the effects of the factors of Family Environment on students'

personality. The results revealed the relationships were so significant that the null hypothesis 2 was also rejected.

Psychoticism. The greater the family members' commitment to the family and the clarity in regard to family rules and responsibilities, the less the child would become cruel, inhumane, insensitive, hostile and aggressive to others.

Extraversion. A child would be more extraverted, easygoing, optimistic and sociable if he or she was reared in a family which was more concerned about political, social, intellectual and cultural activities.

Neuroticism. All the three factors significantly affected a child's scoring of Neuroticism. Comparatively, 'Cohesion, Organization vs. Conflict' was the best predictor for boys while 'Control vs. Expressiveness and Independence' was that for girls. In general, a child who was fostered in a democratic style family with warm and accepting environment would be at lower levels of anxiety.

Lie Score. For both sexes, the tendency to 'fake good' or the extent of conformity was proved positively correlated with cohesion and organization, but negatively correlated with conflict.

Relationships of Type of Schools to Personality

Although students in coeducational schools scored slightly higher in Psychoticism, Extraversion and Lie Score but lower in Neuroticism than those in single-sex schools, the differences were not significant. Thus, the hypothesis 3 was not rejected.

Interaction Effects by Sex and Type of Schools in Personality

A significant ordinal interaction by Sex and Type of Schools was detected in the scoring of Neuroticism. Hence, the null hypothesis 4 was then partially rejected. For girls, Type of Schools had little effect on Neuroticism, but boys in co-educational schools scored especially lower in Neuroticism than others. Sex and Type of Schools were further grouped to test their combined effects. On the average, boys in both types of schools were more troublesome, hostile and aggressive to others; more extraverted, sociable and easygoing; more calm, even-tempered and unworried; but they were less likely to 'fake good'. Moreover, boys showed greater abilities to tolerate the imperfections in others, but they seldom conformed to the needs of others.

Interaction Effects by Family Environment and Type of Schools on Personality

Analysis of Covariance was done to examine the interaction effects on personality by each factor of family environment and type of schools when the influences by other two factors were removed. The notable results are extracted and discussed in the order of the following variates.

(1) Cohesion, Organization vs. Conflict. When combined, the covariates of other two factors together influenced significantly a child's four personality characteristics. By taking into account the correlation between dependent variables and covariates, a child's scorings in P, N and L still significantly depended upon this variate. In fact, a child fostered in a family with good

inter-personal relationships, clarified rules and responsibilities would be more humane, sensitive, stable, even-tempered, controlled, unworrying and caring for others. Furthermore, this child would have a relatively high degree of conformity.

(2) Personal Growth. When the covariates of other two factors were combined, they highly affected a child's scorings in P, N and L. After being adjusted for these two covariates, the scoring in E, N and L for boys, and that in E for girls were significantly based on the 'Personal Growth' factor. In general, if a child's family was more concerned about intellectual, cultural, recreational, sporting and ethical activities, this child would be more sociable, optimistic and easygoing.

(3) Control vs. Expressiveness and Independence. By controlling the joint effects due to the covariates of other two factors, 'Control vs. Expressiveness and Independence' still influenced a child's scoring in N. It was concluded that if the children were reared in the families organized in a hierarchical manner with rigid rules, and if they were discouraged to express their feelings and to be assertive to make their own decisions, they would be emotionally overresponsive, anxious, worrying, moody and frequently depressed.

None of the F values for the two-way interactions on students' personality as regards each factor of the family environment and type of schools was statistically significant. Hence, the hypothesis 5 was retained.

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Appendix 1

Developmental Tasks and the Psychosocial Crises of Nine Life Stages

LIFE STAGE	DEVELOPMENTAL TASKS	PSYCHOSOCIAL CRISES
Infancy	<ol style="list-style-type: none"> 1. Social Attachment 2. Object Permanence 3. Sensorimotor Intelligence and Primitive Causality 4. Maturation of Motor Functions 	Trust vs. Mistrust
Toddlerhood	<ol style="list-style-type: none"> 1. Self Control 2. Language Development 3. Fantasy and Play 4. Elaboration of Locomotion 	Autonomy vs. Shame and Doubt
Early School Age	<ol style="list-style-type: none"> 1. Sex Role Identification 2. Early Moral Development 3. Concrete Operations 4. Group Play 	Initiative vs. Guilt
Middle School Age	<ol style="list-style-type: none"> 1. Social Cooperation 2. Self Evaluation 3. Skill Learning 4. Team Play 	Industry vs. Inferiority
Early Adolescence	<ol style="list-style-type: none"> 1. Physical Maturation 2. Formal Operations 3. Membership in the Peer Group 4. Heterosexual Relationships 	Group Identity vs. Alienation
Later Adolescence	<ol style="list-style-type: none"> 1. Autonomy from Parents 2. Sex Role Identity 3. Internalized Morality 4. Career Choice 	Individual Identity vs. Role Diffusion
Early Adulthood	<ol style="list-style-type: none"> 1. Marriage 2. Child Bearing 3. Work 4. Life Style 	Intimacy vs. Isolation
Middle Adulthood	<ol style="list-style-type: none"> 1. Management of the Household 2. Child Rearing 3. Management of a Career 	Generativity vs. Stagnation
Later Adulthood	<ol style="list-style-type: none"> 1. Redirection of Energy to New Roles 2. Acceptance of One's Life 3. Developing a Point of View about Death 	Integrity vs. Despair

Note. -- from Newman & Newman, 1976.

Appendix 2

Common Social Climate Dimensions Across Environments (from Moos, 1976)

Type of Environment	Relationship Dimensions	Personal Development Dimensions	System Maintenance and System Change Dimensions
<i>Community settings</i> Families	Cohesiveness Expressiveness Conflict	Independence Achievement Orientation Intellectual-Cultural Orientation Recreational Orientation Moral-Religious Emphasis	Organization Control
Social, task-oriented, and therapeutic groups	Cohesiveness Leader Support Expressiveness	Independence Task Orientation Self-Discovery Anger and Aggression	Order and Organization Leader Control Innovation
Work milieus	Involvement Peer Cohesion Staff Support	Task Orientation Competition	Work Pressure Clarity Control Innovation Physical Comfort
<i>Educational Environments</i> University student living groups	Involvement Emotional Support	Independence Traditional Social Orientation Competition Academic Achievement Intellectuality	Order and Organization Student Influence Innovation
Junior high and High school classrooms	Involvement Affiliation Teacher Support	Task Orientation Competition	Order and Organization Rule Clarity Teacher Control Innovation
<i>Treatment settings</i> Hospital and community programs	Involvement Support Spontaneity	Autonomy Practical Orientation Personal Problem Orientation	Order and Organization Clarity Control
<i>Total institutions</i> Correctional	Involvement Support Expressiveness	Autonomy Practical Orientation Personal Problem Orientation	Order and Organization Clarity Control
Military companies	Involvement Peer Cohesion Officer Support	Personal Status	Order and Organization Clarity Officer Control

Appendix 3

Dimensions for the Definition of any one Intrafamilial Attitude

A. Interspouse Attitude Dimensions

Affectionate	vs. Indifferent
Dependent	vs. Self-sustained
Hostile	vs. Indifferent
Dominant	vs. Submissive
Jealous of	vs. Confident in relation to
Proud of	vs. Ashamed of
Sexually attracted	vs. Sexually indifferent
Protective	vs. Indifferent
Respecting	vs. Being contemptuous of

B. Parent-to-child Attitudes

Affectionate (Fond, devoted, kind)	vs. Cold (Heartless, uninterested)
Accepting (Responsible, loyal, having vigorous contact)	vs. Rejecting (Neglecting, disowning, begrudging, impatient)
Hostile-sadistic (Bullying, severe, censorious, callous)	vs. Lacking aggression
Dominant-nurturant (Supervisory, imperious, commanding, coercive)	vs. Submissive (Self-effacing, lax, diffident)
Jealous of (Competitive towards, insecure in regard to, feeling frustrated by)	vs. Trusting (Secure in relation to, grateful towards, friendly)
Proud of (Admiring, exhibitionistic about)	vs. Ashamed of (Guilty or depressed about)
Comradely (Close in emotional rapport and sympathy, affiliative, seeking social contact with)	vs. Socially distant (Out of touch, merely dutiful or official)
Protective-solicitous (Succorant, anxious about, overcareful, sheltering, babying)	vs. Adventurous about (Allowing child unconsciously to get his own experience)
Claimant-appealing (Demanding affection, emotionally dependent on child)	vs. Independent

C. Child-to-parent Attitudes

Affectionate	vs. Cold
Dependent-appealing (Claimant, identifying)	vs. Confident-adventurous (Independent, assured)
Hostile-aggressive	vs. Lacking aggression
Fearful-submissive (Respectful, awestruck)	vs. Bold towards ('fresh') (Independent, not respectful to)
Jealous of	vs. Trusting (Grateful towards, not rivalrous)
Proud of (Admiring, worshiping)	vs. Ashamed of (Critical of)
Rebellious (Negativistic, rude towards, disobedient)	vs. Docile (Obedient, tractable)
Exhibitionistic (Attention-seeking)	vs. Effacing
Comradely (Sociable, confiding, close emotional rapport)	vs. Socially distant (Independent)

D. Intersibling Attitudes

Affectionate	vs. Cold (Rejecting)
Dependent (Following, subordinate, demanding protection)	vs. Independent (Self-assured)
Hostile-sadistic (Bullying, destroying, critical spiteful)	vs. Indifferent
Dominant (Ascendant, exploitative, leading)	vs. Submissive (Diffident)
Jealous of (Competitive for affection, feeling frustrated by)	vs. Trusting (Grateful and helping towards)
Proud of (Admiring, possessive)	vs. Ashamed of (Guilty about disowning)
Comradely (Sociable, confiding, constant emotional rapport)	vs. Socially distant (Withdrawn, lacking in sympathy and harmony, isolative)
Protective (Sheltering, babying, doting on)	vs. Adventurous, unconcerned
Dutiful about (Anxious over, responsible for)	vs. Ignoring any responsibility about

Note. from Cattell, 1950.

Appendix 4 The Junior Eysenck Personality Questionnaire (JEPQ)

The Junior EPQ

1. Do you like plenty of excitement going on around you?	E	43. Do you generally pick up papers and rubbish others throw on the classroom floor?	L
2. Are you moody?	N	44. Have you many different hobbies and interests?	E
3. Do you enjoy hurting people you like?	P	45. Are your feelings rather easily hurt?	N
4. Were you ever greedy by helping yourself to more than your share of anything?	-L	46. Do you like playing pranks on others?	P
5. Do you nearly always have a quick answer when people talk to you?	E	47. Do you always wash before a meal?	L
6. Do you very easily feel bored?	N	48. Would you rather sit and watch than play at parties?	-E
7. Would you enjoy practical jokes that could sometimes really hurt people?	P	49. Do you often feel fed-up?	N
8. Do you always do as you are told at once?	L	50. Is it sometimes rather fun to watch a gang tease or bully a small child?	P
9. Would you rather be alone instead of meeting other children?	-E	51. Are you always quiet in class, even when the teacher is out of the room?	L
10. Do ideas run through your head so that you cannot sleep?	N	52. Do you like doing things that are a bit frightening?	E
11. Have you ever broken any rules at school?	-L	53. Do you sometimes get so restless that you cannot sit still in a chair for long?	N
12. Would you like other children to be afraid of you?	P	54. Would you like to go to the moon on your own?	P
13. Are you rather lively?	E	55. At prayers or assembly, do you always sing when the others are singing?	L
14. Do lots of things annoy you?	N	56. Do you like mixing with other children?	E
15. Would you enjoy setting up animals in Science class?	P	57. Are your parents far too strict with you?	P
16. Did you ever take anything (even a pin or button) that belonged to someone else?	-L	58. Would you like parachute jumping?	E
17. Have you got lots of friends?	E	59. Do you worry for a long while if you feel you have made a fool of yourself?	N
18. Do you ever feel 'just miserable' for no good reason?	N	60. Do you always eat everything you are given at meals?	L
19. Do you sometimes like teasing animals?	P	61. Can you let yourself go and enjoy yourself a lot at a lively party?	E
20. Did you ever pretend you did not hear when someone was calling you?	-L	62. Do you sometimes feel life is just not worth living?	N
21. Would you like to explore an old haunted castle?	E	63. Would you feel very sorry for an animal caught in a trap?	-P
22. Do you often feel life is very dull?	N	64. Have you ever been cheeky to your parents?	-L
23. Do you seem to get into more quarrels and scraps than most children?	P	65. Do you often make up your mind to do things suddenly?	E
24. Do you always finish your homework before you play?	L	66. Does your mind often wander off when you are doing some work?	N
25. Do you like doing things where you have to act quickly?	E	67. Do you enjoy diving or jumping into the sea or a pool?	E
26. Do you worry about awful things that might happen?	N	68. Do you find it hard to get to sleep at night because you are worrying about things?	N
27. When you hear children using bad language do you try to stop them?	L	69. Did you ever write or scribble in a school or library book?	-L
28. Can you get a party going?	E	70. Do other people think of you as being very lively?	E
29. Are you easily hurt when people find things wrong with you or the work you do?	N	71. Do you often feel lonely?	N
30. Would it upset you a lot to see a dog that has just been run over?	-P	72. Are you always specially careful with other people's things?	-P
31. Do you always say you are sorry when you have been rude?	L	73. Do you always share all the sweets you have?	L
32. Is there someone who is trying to get their own back for what they think you did to them?	P	74. Do you like going out a lot?	E
33. Do you think water skiing would be fun?	E	75. Have you ever cheated at a game?	-L
34. Do you often feel tired for no reason?	N	76. Do you find it hard to really enjoy yourself at a lively party?	-E
35. Do you rather enjoy teasing other children?	P	77. Do you sometimes feel specially cheerful and at other times sad without any good reason?	N
36. Are you always quiet when older people are talking?	L	78. Do you throw waste paper on the floor when there is no waste paper basket handy?	-L
37. When you make new friends do you usually make the first move?	E	79. Would you call yourself happy-go-lucky?	E
38. Are you touchy about some things?	N	80. Do you often need kind friends to cheer you up?	N
39. Do you seem to get into a lot of fights?	P	81. Would you like to drive or ride on a fast motor bike?	E
40. Have you ever said anything bad or nasty about anyone?	-L		
41. Do you like telling jokes or funny stories to your friends?	E		
42. Are you in more trouble at school than most children?	P		

Appendix 5

The Internal Consistency Reliability
(Alpha Coefficient) for the Junior Samples
(from Eysenck & Eysenck, 1975)

Sex	Age	No. of Subjects	P	E	N	L
BOYS	7	137	.64	.57	.75	.82
	8	200	.70	.71	.73	.82
	9	193	.65	.64	.82	.87
	10	156	.73	.66	.81	.83
	11	220	.69	.72	.85	.83
	12	226	.74	.76	.86	.80
	13	228	.69	.81	.85	.79
	14	243	.73	.80	.86	.77
	15	148	.74	.80	.85	.75
GIRLS	7	140	.66	.54	.80	.81
	8	195	.64	.64	.80	.81
	9	202	.62	.71	.84	.89
	10	120	.57	.69	.82	.85
	11	209	.43	.75	.85	.83
	12	235	.55	.75	.85	.82
	13	211	.67	.74	.85	.80
	14	206	.70	.77	.86	.81
	15	118	.61	.75	.84	.79

1. Family members really help and support one another.
2. Family members often keep their feelings to themselves.
3. We fight a lot in our family.
4. We don't do things on our own very often in our family.
5. We feel it is important to be the best at whatever you do.
6. We often talk about political and social problems.
7. We spend most weekends and evenings at home.
8. Family members attend church, synagogue, or Sunday School fairly often.
9. Activities in our family are pretty carefully planned.
10. Family members are rarely ordered around.
11. We often seem to be killing time at home.
12. We say anything we want to around home.
13. Family members rarely become openly angry.
14. In our family, we are strongly encouraged to be independent.
15. Getting ahead in life is very important in our family.
16. We rarely go to lectures, plays or concerts.
17. Friends often come over for dinner or to visit.
18. We don't say prayers in our family.
19. We are generally very neat and orderly.
20. There are very few rules to follow in our family.
21. We put a lot of energy into what we do at home.
22. It's hard to "blow off steam" at home without upsetting somebody.
23. Family members sometimes get so angry they throw things.
24. We think things out for ourselves in our family.
25. How much money a person makes is not very important to us.
26. Learning about new and different things is very important in our family.
27. Nobody in our family is active in sports, Little League, bowling, etc.
28. We often talk about the religious meaning of Christmas, Passover, or other holidays.
29. It's often hard to find things when you need them in our household.
30. There is one family member who makes most of the decisions.
31. There is a feeling of togetherness in our family.
32. We tell each other about our personal problems.
33. Family members hardly ever lose their tempers.
34. We come and go as we want to in our family.
35. We believe in competition and "may the best man win."
36. We are not that interested in cultural activities.
37. We often go to movies, sports events, camping, etc.
38. We don't believe in heaven or hell.
39. Being on time is very important in our family.
40. There are set ways of doing things at home.
41. We rarely volunteer when something has to be done at home.
42. If we feel like doing something on the spur of the moment we often just pick up and go.
43. Family members often criticize each other.
44. There is very little privacy in our family.
45. We always strive to do things just a little better the next time.
46. We rarely have intellectual discussions.
47. Everyone in our family has a hobby or two.
48. Family members have strict ideas about what is right and wrong.
49. People change their minds often in our family.
50. There is a strong emphasis on following rules in our family.
51. Family members really back each other up.
52. Someone usually gets upset if you complain in our family.
53. Family members sometimes hit each other.
54. Family members almost always rely on themselves when a problem comes up.
55. Family members rarely worry about job promotions, school grades, etc.
56. Someone in our family plays a musical instrument.
57. Family members are not very involved in recreational activities outside work or school.
58. We believe there are some things you just have to take on faith.
59. Family members make sure their rooms are neat.
60. Everyone has an equal say in family decisions.
61. There is very little group spirit in our family.
62. Money and paying bills is openly talked about in our family.
63. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.
64. Family members strongly encourage each other to stand up for their rights.
65. In our family, we don't try that hard to succeed.
66. Family members often go to the library.
67. Family members sometimes attend courses or take lessons for some hobby or interest (outside of school).

68. In our family each person has different ideas about what is right and wrong.
69. Each person's duties are clearly defined in our family.
70. We can do whatever we want to in our family.
71. We really get along well with each other.
72. We are usually careful about what we say to each other.
73. Family members often try to one-up or out-do each other.
74. It's hard to be by yourself without hurting someone's feelings in our household.
75. "Work before play" is the rule in our family.
76. Watching T.V. is more important than reading in our family.
77. Family members go out a lot.
78. The Bible is a very important book in our home.
79. Money is not handled very carefully in our family.
80. Rules are pretty inflexible in our household.
81. There is plenty of time and attention for everyone in our family.
82. There are a lot of spontaneous discussions in our family.
83. In our family, we believe you don't ever get anywhere by raising your voice.
84. We are not really encouraged to speak up for ourselves in our family.
85. Family members are often compared with others as to how well they are doing at work or school.
86. Family members really like music, art and literature.
87. Our main form of entertainment is watching T.V. or listening to the radio.
88. Family members believe that if you sin you will be punished.
89. Dishes are usually done immediately after eating.
90. You can't get away with much in our family.

Appendix 7

The Internal Consistencies, Corrected Average Item-Subscale
Correlations, Test-Retest Reliabilities and Stabilities
for the Subscales of Form R (from Moos & Moos, 1981)

Subscale	Internal Consistency (N=1067)	Corrected Average Item-Subscale (N=1067)	2-month Test-retest Reliability (N=47)	4-month Test-retest Reliability (N=35)	12-month Test-retest Reliability (N=241)
Cohesion	.78	.44	.86	.72	.63
Expressiveness	.69	.34	.73	.70	.69
Conflict	.75	.43	.85	.66	.76
Independence	.61	.27	.68	.54	.52
Achievement Orientation	.64	.32	.74	.66	.69
Intellectual-Cultural Orientation	.78	.44	.82	.86	.79
Active-Recreational Orientation	.67	.33	.77	.83	.72
Moral-Religious Emphasis	.78	.43	.80	.91	.89
Organization	.76	.42	.76	.73	.81
Control	.67	.34	.77	.78	.79

問 卷

作答須知

1. 請勿塗污這份問卷

2. 請檢查枱上應有一份問卷和一張答題紙

3. 請在答題紙上填答甲、乙和丙三部份所有問題

4. 甲部印在答題紙上

乙部〔性格量表〕

提示：本部問題並沒有正確或錯誤的答案。請根據你自己情況在每題的空格內填上適當的答案。

（「T」代表「是」，「F」代表「否」）

1. 你是否喜歡在你週圍有很多刺激的事情發生？
2. 你心情變化不定嗎？
3. 當傷害自己喜歡的人時，你是否感到快樂？
4. 你曾經貪心地拿取多過你應得的任何東西嗎？
5. 當別人與你談話時，你是否幾乎總是立刻就有一個答案？
6. 你非常容易感覺厭煩嗎？
7. 你喜歡做出一些有時會真正傷害別人的惡作劇嗎？
8. 你時常立刻依照別人的吩咐去做事嗎？
9. 你是否寧願孤單也不願去和別的孩子做朋友？
10. 你常因腦子裏充滿思潮以致不能入睡嗎？
11. 你會否破壞過任何校規？
12. 你喜歡別的兒童害怕你嗎？
13. 你相當生氣蓬勃嗎？
14. 是否有很多事情煩擾你？

15. 在科學課解剖動物時，你覺得是一種享受嗎？
16. 你會否拿取屬於別人的任何東西（甚至一口針或一粒鈕扣）？
17. 你有很多朋友嗎？
18. 你會否無緣無故地覺得「真難受」？
19. 你是否有時喜歡戲弄動物？
20. 當別人叫你時，你會否假裝聽不到？
21. 你喜歡到一座古老鬼堡探險嗎？
22. 你時常覺得生活非常乏味嗎？
23. 你是否比大部份孩子較多爭吵與打架？
24. 你是否總是做完家課才去玩耍？
25. 你喜歡做需要速戰速決的事情嗎？
26. 你是否擔心一些可怕的事情會發生？
27. 當你聽到孩子們講「粗口」時，你會否設法阻止他們？
28. 你能否令一個聯歡會進行得順利？
29. 當他人找出你的錯處或發現你工作有錯誤時，你是否容易感到不快？
30. 當你看到一隻狗被汽車輾過時，你是否覺得非常難過？
31. 若你會對他人粗言無禮，是否通常會說對不起？
32. 是否有人認為你會開罪他們而要向你報復？
33. 你認為滑水很好玩嗎？
34. 你是否時常無緣無故地覺得疲倦？
35. 你喜歡取笑別人嗎？
36. 當年長的人談話時，你是否保持肅靜？

37. 你是否通常採取主動去結交新朋友？
38. 你對某些事情是否容易發怒？
39. 你常和別人打架嗎？
40. 你會否說過任何人的壞話？
41. 你喜歡對朋友說笑或講好笑的故事嗎？
42. 在學校裏你是否比大多數的孩子有更多麻煩？
43. 你是否常拾起別人在課室裏所拋擲的紙屑和廢物？
44. 你有沒有很多不同的嗜好和興趣？
45. 你的情感是否頗容易受傷害？
46. 你是否喜歡戲弄別人？
47. 你進食前必定洗手嗎？
48. 你是否在宴會裏寧願坐下和觀看週圍事物，而不去參加玩樂？
49. 你時常覺得不耐煩嗎？
50. 當看到一幫人取笑或恐嚇一個小孩時，你是否有時感到相當有趣？
51. 即使當教師不在課室時，你是否也很少說話？
52. 你喜歡做有點恐怖性的事情嗎？
53. 你是否有時不能長時間和安靜地坐在椅上？
54. 你喜歡獨自一人去月球嗎？
55. 在教會或集會中，當別人唱歌時，你是否也一同唱？
56. 你喜歡與其他孩子聚在一起嗎？
57. 你的父母對你是否過份嚴厲？
58. 你喜歡跳降落傘嗎？
59. 如果你覺得你曾經做了傻事，你是否很久都感覺不安？

60. 在進食時，你是否必定吃別人給你的每樣食物？
61. 在一個愉快的聯歡會上，你能否儘情享受？
62. 你有時會覺得活在世上是沒有意義的嗎？
63. 你是否為一隻跌落陷阱的動物感到非常難過？
64. 你會否對你的父母無禮？
65. 你是否時常突然決定去做一事？
66. 當你做事時，你是否思想不集中？
67. 你喜歡在海裏或泳池中潛水或跳水嗎？
68. 你是否對事情有太多憂慮，以致晚上難以入睡？
69. 你會否在學校或圖書館的書籍上塗寫？
70. 別人是否認為你很有活力？
71. 你時常覺得寂寞嗎？
72. 對別人的東西你是否時常特別小心？
73. 你時常將你的糖果與別人分享嗎？
74. 你是否喜歡時常外出？
75. 你會否在遊戲時作弊？
76. 在一個愉快的聯歡會上，你是否覺得很難儘情享受？
77. 你是否有時覺得特別愉快，有時又無緣無故憂愁？
78. 當沒有廢紙籃在附近時，你是否拋棄廢紙在地上？
79. 你認為自己是個聽天由命的人嗎？
80. 你是否時常需要你的好朋友去逗你開心？
81. 你喜歡駕駛或乘坐一部開得很快的電單車嗎？

丙部（家庭環境量表）

提示：若句子內所描述的現象與自己的家庭情況相似或一樣，則在空格內填上「T」號代表「是」。若不相似，則在空格內填上「F」號代表「否」。

1. 我們家人能真誠地互相幫助和支持。
2. 家中各人常隱藏自己的感受。
3. 我們在家裏常有爭執。
4. 我們在家裏很少獨斷獨行。
5. 我們覺得無論做什麼，務必做得最好。
6. 我們常常談論政治和社會問題。
7. 我們通常在家中共渡晚上和週末。
8. 家人頗常返教會、聖堂或參加主日學。
9. 我們家裏的活動都經過相當細心的策劃。
10. 家人很少被命令到團團轉。
11. 在家裏，我們常無聊地消磨時間。
12. 在家裏，我們均能暢所欲言。
13. 家人甚少發怒。
14. 家人互相鼓勵，要有獨立的精神。
15. 我家很重視力爭上游的人生觀。
16. 我們甚少去聽講座、看戲劇或欣賞音樂會。
17. 朋友們經常到訪或與我們家人共進晚餐。
18. 我們家人沒有祈禱的習慣。
19. 通常我們的生活有條不紊。
20. 我們甚少家規。

21. 我們在家裏無論做什麼，均盡力而為。
22. 在家裏發脾氣而不激怒家人，真是一件難事。
23. 家人有時憤怒至亂拋東西。
24. 我們家人都有各自獨立的思想。
25. 賺錢多少，對我們家人並不十分重要。
26. 我們家人重視學習各種新事物。
27. 我家沒有人熱衷於田徑、足球、保齡球等運動。
28. 我們常談論聖誕節、逾越節或其他宗教節日的意義。
29. 在家裏，通常很難立即找到你需要的東西。
30. 在我家中，大多事情由一個人決定。
31. 我的家人一團和氣。
32. 我們與家人彼此互訴個人問題。
33. 家人很少發脾氣。
34. 在家裏，我們可以隨意出入。
35. 我們相信競爭和優勝劣敗之說。
36. 我們對文化活動不大感興趣。
37. 我們經常看電影，球賽和參加露營等。
38. 我們不相信有天堂和地獄。
39. 我家人重視守時。
40. 在家裏做事有規定的方法。
41. 家中有事要辦，我們極少自動出力。
42. 每當興之所至，我們馬上去做我們想做的事。
43. 我們經常互相批評。
44. 在我家裏，很難有個人私生活。

45. 我們時常努力做事，以期每次有所改進。
46. 我們極少有知識性的討論。
47. 家中每人都有一兩種嗜好。
48. 家人對是非黑白分得很清楚。
49. 家人常常改變主意。
50. 在我家裏，人人要嚴守規律。
51. 家人真心互相支持和勉勵。
52. 如你在家中發怨言，家人中總會有人感到不快。
53. 家人有時互相打鬥。
54. 家人總是獨自去應付問題。
55. 家人很少憂慮升職或學業成績等問題。
56. 我家裏有人能演奏樂器。
57. 在工餘或課餘，家人很少參加康樂體育活動。
58. 我們相信有些事要單憑信心去接受。
59. 家人注重家居的整齊。
60. 對於家庭決策，每個人都有平等的發言權。
61. 在我家裏，團結精神很弱。
62. 我家人通常公開討論金錢和付賬的問題。
63. 如家人意見不合，我們會設法互相遷就，以求融洽。
64. 家人極之鼓勵，各自爭取個人應得的權利。
65. 我的家人不會竭盡所能地去爭取成功。
66. 家人常去圖書館。
67. 家人有時爲了興趣或嗜好，修讀一些課外科目。

68. 在我家裏，每個人對是非黑白，都有不同看法。
69. 在我家裏，每個人的職責，均有清楚的界定。
70. 在家裏，我們可以隨意做想做的事。
71. 我們都和洽相處。
72. 我們彼此交談也必小心謹慎。
73. 在家中，每人都希望在各方面勝過別人一籌。
74. 欲獨自行事，又不傷害家人的心，在我家是甚困難的事。
75. 「先工作，後娛樂」是我家的常規。
76. 在我家裏，看電視比看書重要。
77. 家人經常外出。
78. 聖經是我們家中一本十分重要的書。
79. 我們一家對金錢的運用，並不太在意。
80. 我們的家規相當嚴謹。
81. 在我家裏，每人都享有足夠的閒暇與關懷。
82. 在我家裏，有很多即興的討論。
83. 我們相信單靠大聲，並不能說服人的。
84. 在家裏，我們不鼓勵自我辯護。
85. 家人常互相比較學業成績或工作表現的優劣。
86. 家人極之愛好音樂、美術及文學。
87. 我們主要的娛樂方式是看電視或聽廣播。
88. 家人相信，如你有罪，就要受懲罰。
89. 進餐完畢，我們馬上清洗食具。
90. 我們不能擺脫很多家中的事。

Answer Sheets (Form A & Form B)

答題紙

Form A

甲部 (學生個人資料)

性別：_____ (男 / 女) 年齡：_____ (1)

學校名稱：_____

學校類別：_____ (男校 / 女校 / 男女校) 班級：_____

* 作答乙、丙兩部時，請在每題的空格內填上適當的答案 *

* (「T」代表「是」，「F」代表「否」) *

* 例子：91. 你是否開始作答這份問卷？ 91. T *

乙部 (性格量表)

1. ____	2. ____	3. ____	4. ____	5. ____	6. ____	7. ____	8. ____	9. ____	10. ____
11. ____	12. ____	13. ____	14. ____	15. ____	16. ____	17. ____	18. ____	19. ____	20. ____
21. ____	22. ____	23. ____	24. ____	25. ____	26. ____	27. ____	28. ____	29. ____	30. ____
31. ____	32. ____	33. ____	34. ____	35. ____	36. ____	37. ____	38. ____	39. ____	40. ____
41. ____	42. ____	43. ____	44. ____	45. ____	46. ____	47. ____	48. ____	49. ____	50. ____
(c2)-----									
51. ____	52. ____	53. ____	54. ____	55. ____	56. ____	57. ____	58. ____	59. ____	60. ____
61. ____	62. ____	63. ____	64. ____	65. ____	66. ____	67. ____	68. ____	69. ____	70. ____
71. ____	72. ____	73. ____	74. ____	75. ____	76. ____	77. ____	78. ____	79. ____	80. ____
81. ____									

丙部 (家庭環境量表)

1. ____	2. ____	3. ____	4. ____	5. ____	6. ____	7. ____	8. ____	9. ____	10. ____
11. ____	12. ____	13. ____	14. ____	15. ____	16. ____	17. ____	18. ____	19. ____	20. ____
(c3)-----									
21. ____	22. ____	23. ____	24. ____	25. ____	26. ____	27. ____	28. ____	29. ____	30. ____
31. ____	32. ____	33. ____	34. ____	35. ____	36. ____	37. ____	38. ____	39. ____	40. ____
41. ____	42. ____	43. ____	44. ____	45. ____	46. ____	47. ____	48. ____	49. ____	50. ____
51. ____	52. ____	53. ____	54. ____	55. ____	56. ____	57. ____	58. ____	59. ____	60. ____
61. ____	62. ____	63. ____	64. ____	65. ____	66. ____	67. ____	68. ____	69. ____	70. ____
71. ____	72. ____	73. ____	74. ____	75. ____	76. ____	77. ____	78. ____	79. ____	80. ____
81. ____	82. ____	83. ____	84. ____	85. ____	86. ____	87. ____	88. ____	89. ____	90. ____

答題紙

Form B

甲部 (學生個人資料)

性別：_____ (男/女) 年齡：_____ 姓名：_____ (2)

學校名稱：_____

學校類別：_____ (男校/女校/男女校) 班級：_____

* 作答乙、丙兩部時，請在每題的空格內填上適當的答案 *

* (「T」代表「是」，「F」代表「否」) *

* 例子：91. 你是否開始作答這份問卷？ 91. T *

乙部 (性格量表)

1. _____	2. _____	3. _____	4. _____	5. _____	6. _____	7. _____	8. _____	9. _____	10. _____
11. _____	12. _____	13. _____	14. _____	15. _____	16. _____	17. _____	18. _____	19. _____	20. _____
21. _____	22. _____	23. _____	24. _____	25. _____	26. _____	27. _____	28. _____	29. _____	30. _____
31. _____	32. _____	33. _____	34. _____	35. _____	36. _____	37. _____	38. _____	39. _____	40. _____
41. _____	42. _____	43. _____	44. _____	45. _____	46. _____	47. _____	48. _____	49. _____	50. _____
(c2) _____	51. _____	52. _____	53. _____	54. _____	55. _____	56. _____	57. _____	58. _____	59. _____
61. _____	62. _____	63. _____	64. _____	65. _____	66. _____	67. _____	68. _____	69. _____	70. _____
71. _____	72. _____	73. _____	74. _____	75. _____	76. _____	77. _____	78. _____	79. _____	80. _____
81. _____									

丙部 (家庭環境量表)

1. _____	2. _____	3. _____	4. _____	5. _____	6. _____	7. _____	8. _____	9. _____	10. _____
11. _____	12. _____	13. _____	14. _____	15. _____	16. _____	17. _____	18. _____	19. _____	20. _____
(c3) _____	21. _____	22. _____	23. _____	24. _____	25. _____	26. _____	27. _____	28. _____	29. _____
31. _____	32. _____	33. _____	34. _____	35. _____	36. _____	37. _____	38. _____	39. _____	40. _____
41. _____	42. _____	43. _____	44. _____	45. _____	46. _____	47. _____	48. _____	49. _____	50. _____
51. _____	52. _____	53. _____	54. _____	55. _____	56. _____	57. _____	58. _____	59. _____	60. _____
61. _____	62. _____	63. _____	64. _____	65. _____	66. _____	67. _____	68. _____	69. _____	70. _____
71. _____	72. _____	73. _____	74. _____	75. _____	76. _____	77. _____	78. _____	79. _____	80. _____
81. _____	82. _____	83. _____	84. _____	85. _____	86. _____	87. _____	88. _____	89. _____	90. _____

Appendix 10

Item - New Subscale Correlation of Form R

Factor 1

Cohesion, Organization vs Conflict

Item No.	Item - Subscale Correlation	Item No.	Item - Subscale Correlation
1	.58	45	.42
3	.50	49	.44
5	.35	51	.56
9	.21	53	.43
11	.31	55	.03
13	.48	59	.36
15	.19	61	.56
19	.15	63	.48
21	.50	65	.30
23	.27	71	.59
29	.36	73	.20
31	.63	75	.28
33	.51	79	.02
35	.04	81	.48
39	.29	83	.23
41	.40	89	.31
43	.21		

Factor 2Personal Growth

Item No.	Item - Subscale Correlation	Item No.	Item - Subscale Correlation
6	.17	48	.16
8	.22	56	.30
16	.32	57	.34
17	.26	58	.14
18	.20	66	.35
26	.35	67	.30
27	.23	68	.09
28	.25	76	.17
36	.38	77	.01
37	.24	78	.23
38	.11	86	.33
46	.34	87	.22
47	.13	88	.13

Factor 3

Control vs. Expressiveness and Independence

Item No.	Item - Subscale Correlation	Item No.	Item - Subscale Correlation
2	.31	50	.18
10	.20	52	.09
12	.39	60	.37
14	.22	64	.14
20	.19	70	.30
22	.17	72	.25
30	.22	74	.33
32	.24	80	.29
34	.13	82	.18
40	.10	84	.11
44	.29	90	.21



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